

**Users of Online Indecent Images of Children (IIOC): An Investigation into Aetiological
and Perpetuating Risk Factors, the Offending Process, the Risk of Perpetrating a
Contact Sexual Offence, and Protective Factors**

Simon David Reid Milligan

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Centre for Forensic and Criminological Psychology

School of Psychology

College of Life and Environmental Sciences

University of Birmingham

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ABSTRACT

This thesis investigates aims to gain a better understanding of how to efficaciously assess and manage the risk posed by IIOC users via several objectives: (i) to investigate the statistical risk that an IIOC user has already, or will go on to perpetrate a contact sexual offence; (ii) to explore factors which contribute to the risk of IIOC users first accessing the material, and perpetuating factors which sustain their offending behaviour, and; (iii) to review the efficacy of a treatment package, aimed at addressing emotion regulation deficits amongst IIOC-only offenders. Chapter 1 comprises an introduction to the topic, with a commentary on the increasing prevalence of IIOC use. Chapter 2 presents a systematic review of literature regarding the proportion of dual offending amongst IIOC users. Here, a qualitative synthesis of the data revealed 10% of online IIOC users had official criminal records of dual offending, compared to approximately 40% found via interview studies. The results are suggestive that further research is needed to determine the unique, and shared, risk characteristics of online and offline sexual offenders. Chapter 3 comprises a thematic analysis of the accounts of 10 online IIOC-only offenders engaged in treatment regarding their reasons for accessing IIOC. Data analysis resulted in the extraction of a number of predisposing and perpetuating themes of IIOC use. These were consistent with pathways of contact sexual offending, but characterised by the unique role of general problematic Internet use. A provisional model of IIOC offending was constructed, which views the offending cycle within the context of a maladaptive emotion regulation loop. In light of this, a psychometric tool, the Emotion Control Questionnaire, Second Edition (ECQ2), was identified to measure emotion dysregulation amongst IIOC users. Chapter 4 comprises a critical review of the validity and reliability of this tool. A small-scale exploratory quantitative analysis of a mindfulness-based intervention package, aimed at reducing emotion control deficits amongst IIOC-only

offenders, is presented in Chapter 5. No clinically significant change was found in participants' scores pre- to post-treatment, or when compared to a non-treatment control group, which is attributed to a sampling artefact. Chapter 6 constitutes an overall discussion of the work presented.

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CHAPTER ONE

Introduction

The Internet is a globally-available digital information exchange network which allows for the transmission of an almost unlimited quantity of audio, visual and communication data (Comer, 2007; Ospina, Harstall, & Dennett, 2010). It was estimated in mid-2012 that the then cumulative number of users worldwide was in excess of 2.4 billion (Internet World Stats, 24 August 2013). In parallel with the Internet's growing user base, societal concern has risen regarding its abuse as a medium via which a diverse range of criminal activity is conducted, including financial theft, harassment, cyber terrorism, drug trafficking and sexual abuse (McQuade, 2009; Yar, 2006).

Cooper (2002) explained that the inherent nature of the Internet contributes to its efficacy as an offending tool by providing perpetrators with increased affordability, greater perceived anonymity and near universal access. The challenges faced by those who police inappropriate online behaviour are made more complex due to the lack of a single regulatory body, and the evolution of access from fixed location terminals to mobile technologies (O'Connell, 2004; Sheldon, 2011). These challenges are compounded by the use of sophisticated data transference techniques amongst offenders to disguise their online activity (Elliott & Beech, 2009).

In the last two decades, clinical interest and academic research have focused upon the role of the Internet in the perpetration of sexual offences against minors (e.g., Beech, Craig, & Browne, 2009; Eke & Seto, 2012; Laulik, Allam, & Sheridan, 2007; Mercado, Merdian, & Egg, 2011; Middleton, 2009; Quayle, Vaughan, & Taylor, 2006; Seto, Reeves, & Jung, 2010; Sheldon, 2011). Concern around this issue has risen alongside the growing proportion of minors who use the World Wide Web and who, in so doing, become exposed to a novel virtual threat. In 2001, over 17 million individuals aged 12 to 17 in the USA were Internet users, representing 73% of that population (Pew Internet and American Life Project, 2001).

Based on figures originally reported by Lenhart, Madden, Macgill, and Smith (2007), Mitchell, Finkelhor, Jones, and Wolak (2010) estimated that in 2006, approximately 14 million youths in the USA were using online social network sites, such as 'Facebook' or 'MySpace' to communicate and share their personal information. More recent survey data showed that by 2012, between 93-97% of youths (aged 12-17) in the USA engaged in online activity (Pew Internet and American Life Project, 2012).

Several authors have devised classification schemes which operationally define the nature of deviant online sexual practices against minors (e.g. Alexy, Burgess, & Baker, 2005; Durkin, 1997; Gallagher, 2007). In their review of criminological literature, Ospina et al. (2010) succinctly categorised these activities into five types: (i) locating or grooming a child online for the purposes of perpetrating a contact sexual offence against them; (ii) conspiring to traffic child victims for sexual purposes, such as prostitution or sex tourism (see Cooper, Estes, Giardino, Kellogg, and Veith [2005] for a review); (iii) communicating with child victims in a sexually inappropriate manner, including providing them with sexual material; (iv) making, distributing or possessing sexualised images depicting children, and; (v) communicating with other offenders to share paedophilic or hebephilic interests.

The online solicitation of minors to engage in sexual activity offline or to invoke them to provide sexually explicit images of themselves has been found to range from 19-25% of Internet users, aged 10-17, in the USA (N = 1,501; Finkelhor, Mitchell, & Wolak, 2000). In a telephone survey of 1,500 youth Internet users, Mitchell, Finkelhor, and Wolak (2007) found a greater proportion (48%) of minors had received online requests to provide sexual pictures of themselves. (A summary of factors which are thought to increase the risk of youths being sexually victimised online is presented in Appendix A). However, these prevalence rates are

considered to be an underestimate of the true incidence of online sexual offending, as a significant proportion is thought to remain undetected or undisclosed.

Leander, Christianson, and Granhag (2007) compared the accounts of underage victims of online sexual abuse with the accounts of the perpetrators of those offences, and official Police reports. A review of the results revealed significant discrepancies. Victims tended to minimise or deny having shared sexualised images of themselves, or having transmitted live images of themselves undressing via a webcam. The authors replicated these findings in a 2008 study by applying the same analytic method to the accounts of 68 victims of an online offender who had posed as an online model scout. Of 23 adolescent victims who sent images of themselves naked, only 43% disclosed full details to the authorities, whilst others omitted some aspects or denied having been victimised entirely.

Victims may conceal, belittle or deny details of their victimisation due to embarrassment or due to actual or perceived pressure applied by the offender not to disclose. When investigating offender behaviour amongst adult and juvenile perpetrators of offline sexual abuse, Miranda and Corcoran (2000) found that both groups psychologically manipulated their victims to deter them from disclosing. By reviewing offending behaviour, Burgess and Hartman (1987) found that perpetrators used a range of overt and indirect tactics to discourage victims from disclosing. Offenders applied tactics which included using *fear and intimidation* (e.g. making threats of physical harm), attempting to *positively reinforce* the victim's perception of the experience by suggesting that they may have found it enjoyable, and by *blackmail*, for instance, threatening to circulate accounts or images associated with the abuse. However, one of the most prevalent forms of online sexual offending against children, which perhaps represents the greatest societal concern, often occurs without the victim's

awareness, namely the making, trading or possession of images of a sexual nature which depict children (Lam, Mitchell, & Seto, 2010).

Indecent images of children

In 2006, offences involving indecent images of children represented the largest proportion of child sexual victimisation cases prosecuted by federal attorneys in the USA (Motivans & Kyckelhahn, 2007). In the UK, the Child Exploitation and Online Protection Centre (CEOP), a specialised division of the Police Serious Organised Crime Agency which handles suspected offences relating to indecent images of children, has reported annually increasing numbers of referrals, indicating the problem is growing (CEOP, 2012).

Several terms have been used to refer to sexualised images which depict minors. The term *child pornography*, although widely adopted, has been regarded as contentious as it is thought to infer a degree of consent on behalf of the victim to participate, evoking connotations associated with the production of legitimate pornography (CEOP, 2012). Jones and Skogrand (2005) advocated the use of an alternative term, *abuse images*, which they suggested better reflects the victim nature of material and the victim's compound exposure to abuse each time an image is viewed or exchanged. However, the current paper hereafter adopts the term *indecent images of children* (IIOC), which CEOP (2012) suggested most appropriately represents classification schemes, defining image type.

Beech, Elliott, Birgden, and Findlater (2008) succinctly categorised different forms of IIOC in their review of associated literature. The authors built upon an initial distinction made by Lanning (2001), which differentiated audio and visual IIOC on the basis of whether it is accessed for domestic or commercial consumption. Further distinctions were made by Lanning (2001), who operationally defined *technical* material as adult-based images which

contextually include children, and Quayle and Jones (2011), who defined *pseudo-images* as simulated material in which adult protagonists are digitally manipulated to seemingly depict children, or images of children which are edited into sexually explicit contexts.

Two classification schemes of IIOC (see Appendix B) are used to legally define content type and inform criminal justice sentencing, respectively provided by the Sentencing Advisory Panel (SAP; Sentencing Council, 2013) and the Combating Paedophile Internet Networks in Europe (COPINE) database (Beech et al., 2008; Taylor, Holland, & Quayle, 2001). Both systems comprise a continuum of increasingly severe depictions of children in various stages of undress, posing in increasingly explicit manners, and involving other parties in a sexual enterprise (including bestial acts). Data trend analysis of the seriousness of the content of images referred to the Internet Watch Foundation (IWF), a UK charity which works on an inter-agency basis to minimise the availability of criminal material online, indicated that the nature of seized IIOC is becoming more extreme, sadistic and violent (CEOP, 2012). For instance, CEOP (2012) reported that there was a near 8% rise in the number of Level 4 or 5 images (akin to the current Category A; Sentencing Council, 2013) reviewed by the IWF between 2008 and 2010. Reviews of prevalence data indicates an overall increase in offending rates, and the growing scale of the challenges faced by society.

Prevalence of online IIOC offending

There are a number of psychosocial factors present in the population of child and adolescent victims of online sexual offending which are thought to place them at increased risk of succumbing to the online sexual abuse. In their review of telephone interviews with 1,501 Internet users, aged 10-17, in the USA, Wolak, Finkelhor and Mitchell (2003) observed that there is a cultural expectation amongst youths to meet their social needs via digital and online

services. Dombrowski, LeMasney, Ahia and Dickson (2004) posited that users of virtual forums (such as social media sites and chat rooms), aged under 18, may be more vulnerable to online sexual solicitation as a result of their developmental desire for interpersonal validation and acceptance. The positive attention, compliments and gifts which offenders offer their potential victims as part of the grooming process, act to satisfy these desires (Jaffe & Sharma, 2001; Leander, Christianson, & Granhag, 2008; Wolak, Finkelhor, & Mitchell, 2004). Once this virtual relationship pattern has been established, victims have been found to be more likely to comply with requests to share sexually explicit material of themselves, receive sexual material from the offender, and meet the offender offline (Mitchell, Finkelhor, & Wolak, 2001; Mitchell et al., 2010; Wolak et al., 2004).

Adolescents aged over 14 have been found to be at greater risk of being sexually victimised online than younger individuals, which is attributed to their developing sexual curiosity, greater degree of behavioural freedom and ease of access to unsupervised Internet-providing technologies (Finkelhor, Mitchell, & Wolak, 2000; Mitchell et al., 2001; Rickert & Ryan, 2007; Yan, 2006). Several factors have been found to compound the risk of a young person being targeted online for sexually abusive practices, including the presence of substance abuse difficulties (Noll, Shenk, Barnes, & Putnam, 2009), exposure to parental conflict at home (Mitchell & Wells, 2007) and concurrent physical and/or other sexual abuse (Mitchell & Wells, 2007; Noll et al., 2009; Stanley, 2001). The occurrence of these negative life events likely renders potential victims more receptive to the positive attention of an online offender. CEOP (2012) reported that between April 2011 and March 2012, referrals to the agency increased by 181%, with 26 UK police forces having cumulatively received 2,625 referrals in the calendar year of 2011.

With regard to the scale of images available internationally, in 2008, Interpol was reported to hold over 520,000 images representing the sexual victimisation of minors (Sheldon, 2011).

By 2011, Quayle and Jones cited that the cumulative number of unique still IIOC held on ChildBase, the database of images seized by CEOP, in the UK alone, was over 807,500.

CEOP (2012) also reported data regarding the size of image collections seized by UK police, drawn from 87 case studies across 34 Police forces. Individual collection sizes ranged from only a few moving or still images to over 2.5 million. In their criminological review, Ospina et al. (2010) reported that users of IIOC are represented across all strata of society, including teachers, legal and medical professionals, the clergy and the military.

However, as with online sexual offending as a whole, arrest and conviction rates for IIOC offences are likely to be under-representative due to difficulty detecting offender behaviour and identifying victims (Quayle & Taylor, 2003). Elliott and Beech (2009) reported that unless offenders compromise their identity by accessing indecent material with a registered credit card, detection typically relies upon time-consuming forensic analysis of an online device. Also, jurisdictional variation in the legal definition of a minor further complicates the accuracy with which an investigation team can determine whether an image depicts an underage individual (Sheldon, 2011). Quayle and Jones (2011) cited that intra-familial abuse is even less likely to be reported by the victim due to a fear of the negative impact across multiple life domains. In addition to this, many IIOC offences may go unreported due to an inadequate understanding held by the lay population of what constitutes an offence.

Lam et al. (2010) surveyed 492 university students to gauge their understanding of appropriate sentencing of IIOC offenders in several vignettes. The results indicated that only approximately 88% of participants believed the transmission of IIOC was illegal, only 83% believed that possession was illegal, 44% were unsure of the legality of viewing IIOC

without downloading it and approximately 7% believed that viewing IIOC without downloading was legal. When reflecting upon the implications of these findings, the authors suggested that fewer real life offences are likely to be reported to criminal justice agencies due to a lack of awareness and understanding amongst those involved of the pertinent legal issues.

The high burden placed upon society as a result of IIOC can be measured by: (i) the deleterious impact upon the victims, and; (ii) the effort taken by judicial bodies to create and apply new legislation which prohibits all forms of evolving IIOC use. With regard to the former, Mitchell et al. (2007) found that juveniles who had been subject to requests for such material by offenders scored significantly higher on rating scales of emotional distress than youths who had not been targeted. Across several other studies, researchers have found raised levels of emotional distress experienced by IIOC victims when they have learned of the uncontrolled and permanent nature of image distribution (Burgess & Hartman, 1987; Palmer & Stacey, 2004).

A number of nations have implemented increasingly stringent legislative measures to protect minors from the production and circulation of IIOC (Wolak, Finkelhor, Mitchell, & Ybarra, 2008). These include the Protection of Children Act 1978 and the Sexual Offences Act 2003, in the UK; and the 'PROTECT' (Prosecutorial Remedies and Other Tools to end the Exploitation of Children Today) Act 2003 in the USA (Beech et al., 2008). In light of concerns regarding the potential of *pseudo-IIOC* to incite the direct victimisation of children, the US Congress passed a statute which has criminalised any material which would have the user believe that the subject was a minor (Ray, Kimonis, & Donoghue, 2010). In Canada, all convicted IIOC possessors are required to sign the National Sexual Offender Registry and provide a DNA sample (Lam et al., 2010). These legal changes have done much to provide

risk management agencies with the judicial power needed to apprehend and monitor individuals found to use online IIOC. However, a greater understanding is still required of the factors which contribute to the risk of someone choosing to access IIOC, and also of their risk of committing other (sexual) offences. It is vital these areas are investigated in order to best inform the individual case management strategies of those involved in the assessment and treatment of IIOC offenders.

Understanding IIOC users

Osborn, Elliott, Middleton, and Beech (2010) reported that attempts to understand reasons for IIOC use have typically been derived from conceptual models of contact sexual offence pathways (e.g. Elliott & Beech, 2009; Middleton, Elliott, Mandeville-Norden, & Beech, 2006). A key foundation of these models involves the role of *stable dynamic*, or personality-based, risk factors, found to be present amongst groups of contact sexual offenders from large-scale explorations of psychometric data. These factors comprise: (i) intimacy deficits; (ii) pro-offending cognitions; (iii) emotional dysregulation, and; (iv) deviant sexual scripts (Craig, Browne, & Beech, 2008; Thornton, 2002; Ward & Siegert, 2002). Aspects of offenders' demographic characteristics are understood as *static risk factors*, that is, behavioural markers of the expression of dynamic traits, such as whether the offender was in a relationship at the time of their offence, and whether the offender has other violent (non-sexual) convictions (Beech & Ward, 2007; Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2009; Ward & Beech, 2006). For a detailed review of the development of models of contact sexual offending, and their application to the concept of IIOC use, see Chapter 3. However, the results of comparison studies of IIOC users and contact sexual offenders suggest it may not be appropriate to indiscriminately apply these risk models across both offending types.

When using two actuarial risk assessment tools, derived from norm groups of contact sexual offenders, to predict the risk of recidivism amongst a community-based group of IIOC users (N = 73), Osborn et al. (2010) found that both measures over-predicted the online offenders' group of committing any further offence in a one-and-a-half to four year follow-up period. None of the IIOC sample reoffended in the follow-up period despite 76.7% (n = 56) having been categorised as a *moderate high risk*, using the Static-99 (Hanson & Thornton, 2000); and 72.6% (n = 53) a *medium risk* using the Risk Matrix 2000 (RM2000; Thornton et al., 2003). The predictive accuracy only improved when modifying the RM2000-Revised (Thornton, 2007) to account for specific offence characteristics of the online group. These differences may be, in part, attributable to significant differences between the groups in their demographic and psychological characteristics.

Both contact sexual offenders and IIOC users comprise heterogeneous populations, represented across all strata of society, including teachers, legal and medical professionals, the clergy and the military (Ospina et al., 2010). However, IIOC users and contact offenders have been found to be reliably distinguishable by significant differences between the groups across several demographic characteristics. For instance, IIOC users have been found to be more likely to have undertaken more years of education (M = 13.8 years vs. M = 11.2 years), and be in employment (in a professional role; 62% vs. 16%; Sheldon & Howitt, 2008), in addition to and be of a higher socio-economic status than contact sexual offenders (Eke & Seto, 2012; Tomak, Weschler, Ghahramanlou-Holloway, Virden, & Nademin, 2009).

Babchishin, Hanson, and Hermann's (2011) meta-analysis of 27 studies (N = 4,844) reported that online sexual offenders were significantly younger (M = 39 years) than contact offenders (M = 44 years.).

Significant differences between IIOC users and contact sexual offenders have also been found with regard to their relationship status. Internet offenders have been found to have been more often single for long periods than contact sexual offenders, with approximately 50% of online offenders having not been in a relationship at the time of their offence, compared to approximately 25% of contact offenders (Laulik, Allam, & Sherridan, 2007; Webb, Craissati, & Keen, 2007). Seto, Reeves, and Jung (2010) also found 36.9% ($n = 31$) of IIOC users reported long term social difficulties; and Laulik et al. (2007) found 16.7% of their online offender sample had never had a sexual relationship with another adult.

In addition to these inter-group differences, Webb et al. (2007) found online sexual offenders were significantly more likely to have had contact with mental health services (41%, $n = 37$) than their offline counterparts (21%, $n = 25$); and significantly fewer Internet offenders were engaging in drug and alcohol abuse at the time of their offence (1%, $n = 1$) than contact offenders (8%, $n = 10$). Further to this, Babchishin et al.'s (2011) review data indicated that fewer online sexual offenders reported personal childhood physical abuse (24.4%) than contact offenders (40.8%).

Psychological risk characteristics

Although differences in the demographic variables of IIOC users and contact sexual offenders suggest they may represent separate populations, further consideration needs to be given to the degree of overlap of their psychological risk characteristics. If both groups present with largely similar profiles of dynamic risk factors, it may be appropriate and advisable to apply similar assessment and treatment models to both, focusing on these factors. Middleton, Mandeville-Norden, and Hayes (2009) reported that this has already been put into practice. The authors presented a review of the Internet Sexual Offender Treatment

Programme (i-SOTP), an accredited community-based intervention programme, delivered by the National Probation Service across England and Wales.

The structure of the i-SOTP is largely derived from the UK prison and probation-run Sexual Offender Treatment Programme (SOTP), itself based on Fisher and Beech's (1998) *model for change* for contact sexual offenders. As such, it chiefly focuses upon addressing the four key risk factors of contact offending by challenging IIOC users' offence-supportive cognitions; the longest module addresses intimacy and self-regulation deficits; and it concludes with work to redress deviant sexual fantasies (Middleton & Hayes, 2006). However, the findings of a number of studies suggest that IIOC users may present with significantly different psychologically-based risk factors than contact offenders, thereby challenging the applicability of the contact offender model.

In their comparison of the psychometrically-measured personality profiles of 505 Internet sexual offenders and 526 contact sexual offenders, Elliott et al. (2009) found the former group displayed significantly lower levels of assertiveness, coupled with low self-esteem and emotional loneliness, suggestive of key differences in intimacy deficits. The authors concluded that, as a consequence of these personality styles, the online offenders were more likely to develop an expectancy that they would be unsuccessful in establishing adaptive relationships, and so, retreated online to garner pseudo-intimacy.

With regard to differences in sexual deviance between the groups, Seto, Cantor, and Blanchard (2006) performed penile plethysmograph (PPG) tests on 685 online child pornography users, and found that IIOC offenders were three times more likely to exhibit paedophilic arousal to content depicting children. Similarly, Seto et al. (2011) found significantly higher levels of self-reported paedophilia and hebephilia amongst online child

pornography offenders when compared to contact sexual offenders. The authors also found that the former group were significantly better predicted by differences in sexual drive/preoccupation on the Stable-2007 (Hanson et al., 2007) than contact offenders, respectively. This is also consistent with Webb et al.'s (2007) finding that 50% of their online sexual offender sample admitted to masturbating to child pornography.

When considering differences between IIOC users and contact sexual offender groups in cognitive distortions, Babchishin et al.'s (2011) meta-analysis indicated that, after fixed-effect analyses, the online samples showed significantly fewer pro-offending attitudes, using psychometric measures than contact offenders. Similarly, in an update of their 2009 study, using 526 contact-only offenders, 459 Internet-only offenders, and 143 mixed contact/Internet offenders, Elliott, Beech, and Mandeville-Norden. (2013), found participants with IIOC-related offences were significantly less likely than contact-only offenders to display pro-offending attitudes regarding the extent to which their victims may have been harmed or enjoyed their abuse experience.

Other studies have found Internet sexual offenders typically display fewer indicators of maladaptive emotion regulation than contact offenders. Tomak et al. (2009) found their sample of IIOC users attained significantly lower scores on the psychopathic deviate subscale of impulsive behaviour the PAI (Morey, 1991). Overall, these findings suggest there are clear differences between the psychological profiles of IIOC users and contact offender groups, thereby, creating some uncertainty as to how best to approach the case management of IIOC users.

Thesis Aims

The general aim of this thesis is to gain a better understanding of how to efficaciously assess and manage the risk posed by IIOC users. It seeks to achieve this aim via several key objectives:

- (i) to investigate the statistical risk that an IIOC user has already, or will go on to perpetrate a contact sexual offence. In order to do this, Chapter 2 presents a review of literature which examines retrospective, and follow-up, recidivism data of the perpetration of contact sexual offences amongst samples of IIOC offenders. Theoretical consideration is given as to whether IIOC offenders may represent an entirely separate population from individuals who perpetrate contact sexual offences; or whether they may represent a subgroup of contact offenders at a different stage of their offending careers.
- (ii) to explore factors which contribute to the risk of IIOC users first accessing the material, and perpetuating factors which sustain their offending behaviour. Chapter 3 addresses this by presenting a thematic analysis of the accounts of a sample of IIOC-only offenders undergoing treatment in interview. Extracted data are used to provide a theoretically-unbiased perspective of risk factors which precipitate IIOC use, and factors which protect IIOC-only offenders from recidivating or perpetrating a contact sexual offence.
- (iii) to perform a critique of a psychometric tool which could be used to measure a relevant risk factor of online IIOC use. To this end, Chapter 4 comprises a critical review of the Emotion Control Questionnaire, Second Edition (ECQ2; Roger &

Najarian, 1989), a psychometric tool which measures emotion regulation styles.

The critique incorporates a review of literature regarding the development of the measure, and an assessment of the scales' validity and reliability, by analysing the results of others who have used it.

- (iv) to review the efficacy of a treatment package, aimed at addressing emotion regulation deficits amongst IIOC-only offenders. In light of this objective, Chapter 5 presents a small-scale exploratory quantitative analysis of IIOC-only offenders' scores on the ECQ2, before and after completion of a mindfulness-based intervention package.

As such, this thesis comprises a systematic review of literature regarding the proportion of IIOC offenders who also perpetrate a contact sexual offence; a qualitative investigation of IIOC offenders' accounts regarding factors associated with their offence behaviour; a critique of a psychometric scale used to measure maladaptive patterns of emotion regulation amongst IIOC users, the Emotion Control Questionnaire, Second Edition (ECQ2; Roger & Najarian, 1989); and a small-scale empirical exploration of the efficacy of a Mindfulness-based intervention package at eliciting pre- to post-treatment change in ECQ2 scores of a sample of IIOC-only offenders. The final chapter (Chapter 6) comprises an overall discussion of the work undertaken as part of this thesis. It presents a synthesis of the findings of the preceding chapters, and reflects upon their relevance to the risk assessment, policing and management strategies of IIOC offenders.

CHAPTER TWO

What Proportion of HOC Offenders Commit Contact Sexual Offences? A Systematic Literature Review

ABSTRACT

Aim

Academic theory has suggested a conceptual link between the use of indecent images of children (IIOC) and the increased risk of perpetrating a contact sexual offence (Sullivan & Beech, 2004). This chapter presents a review of literature regarding the proportion of IIOC users who also perpetrate a contact sexual offence.

Methodology

An initial scoping search identified the need for this review. A semi-systematic literature review methodology was employed which yielded a total of 468 citations. After applying PICO inclusion and exclusion criteria, and a subsequent quality assessment check, 23 studies were retained for data extraction and a qualitative synthesis review.

Results

Rates of dual offending (contact and IIOC use) found by studies included in the review ranged from 0.0% (n = 0) to 88.8% (n = 71), with a median rate of 13.5%. The majority of dual offending data was derived from studies which relied upon official criminal records to identify offences. These elicited a mean dual offending rate of 10.0% (n = 730). Higher rates were yielded by studies which, respectively, relied upon self-report disclosure alone (45.8%, n = 215), and mixed sources of offending data, including official criminal records, self-report and polygraph sexual history disclosure examination (63.2%, n = 91). Studies which recruited samples from official offender databases elicited a dual offending rate of 11.0% (n = 841), whereas participants selected from populations undergoing treatment were found to have higher rates, at 44.2% (n = 346).

Conclusions

The results of the review are broadly consistent with those of a meta-analysis, conducted by Seto, Hanson, and Babchshin (2011), which was published during the composition of the current review. Due to the broad range of dual offending rates found, the true extent of overlap between IIOC user and contact sexual offender populations is unclear. The use of official criminal data is thought to under-represent dual offending rates, whilst studies involving the polygraph have produced mixed results. Further investigation is needed to determine the order in which dual offences are committed, and to determine the role of IIOC use in contact offending.

INTRODUCTION

Chapter 1 presented a review of online sexual offending data, which highlighted the growing societal burden placed by offenders who access indecent images of children (IIOC; Child Exploitation and Online Protection Centre [CEOP], 2012; Ospina, Harstall, & Dennett, 2010; Sheldon, 2012). This burden is measurable in the degree of harm caused to IIOC victims, and in the strain placed upon police and judicial resources which aim to prevent the production and handling of indecent material (CEOP, 2012; Mitchell, Finkelhor, & Wolak, 2007; Motivans & Kyckelhahn, 2007; Palmer & Stacey, 2004; Wolak, Finkelhor, Mitchell, & Ybarra, 2008). In light of these pressures, it is imperative that risk assessment and management agencies are best informed as to the full extent of the nature of risk posed by IIOC users (O'Donnell & Milner, 2007; Sheldon, 2011; Sheldon & Howitt, 2007).

Current mainstream treatment packages for IIOC offenders are derived from models of contact sexual offending (Middleton, Mandeville-Norden, & Hayes, 2009; Osborn, Elliott, Middleton, & Beech, 2010; see Chapter 3 for a further review). However, concerns may be raised as to whether it is appropriate to apply the same principles of contact sexual offending to the risk of using IIOC online. Although a proportion of IIOC users can be assumed to perpetrate a contact sexual offence at the point of image production, it is unclear what risk the IIOC user population as a whole presents of committing a contact sexual offence.

Within the overall aim of this thesis to better understand how to efficaciously treat and manage IIOC offenders, this chapter investigates a key question which pervades the psychological and legal literature regarding IIOC use, namely what risk those who access it pose of perpetrating a contact sexual offence (Babchishin, Hanson, & Hermann, 2011; Basbaum, 2010; Eke & Seto, 2012; Long, Alison, & McManus, 2013; Wolak, Finkelhor, &

Mitchell, 2009). This chapter first considers the theoretic relationship between populations of IIOC users and contact sexual offenders. It then reports findings regarding the degree of demographic overlap between the groups, and suggests reasons why IIOC use and contact sexual offending may co-occur. A semi-systematic review of related data is then presented.

This thesis hereafter adopts a term proposed by Sullivan and Beech (2004) to refer to individuals who perpetrate both online IIOC and contact sexual offences as *dual offenders*. The extent of concern held by criminal justice bodies regarding dual offending is illustrated by the 2012 report of the CEOP, which stated that 21 of 34 UK police agencies prioritised their IIOC offender management caseload according to the offender's perceived risk of perpetrating a contact sexual offence.

Attempts have been made by authors to produce a comprehensive conceptual understanding of the relationship between IIOC and contact offender groups. Quayle, Holland, Linehan and Taylor (2000) proposed that it can be viewed from three perspectives:

1. *IIOC users and contact sexual offenders represent entirely separate populations.* In this instance online IIOC users exclusively limit their offending to the Internet and pose a negligible risk of perpetrating a contact sexual offence. IIOC use serves a *fantasy only* function (Elliott & Beech, 2009).
2. *IIOC users and contact sexual offenders share the same risk factors.* This perspective suggests that both groups share characteristics which equally dispose them to perpetrating either offence type. For IIOC users, the Internet merely provides one medium to express their deviant interest. Whether IIOC users also perpetrate a contact offence depends upon external factors, such as the opportunity to access victims. In

this instance, IIOC users may display *direct victimisation* offence patterns (Elliott & Beech, 2009). They may use IIOC as a blueprint for a contact offence or also engage in online solicitation.

3. *There is a partial overlap between IIOC user and contact sexual offender populations.* This perspective suggests a proportion of both offender groups share the same risk characteristics and so are more likely to dual offend. The remaining offenders who exclusively perpetrate IIOC-only or contact-only offences do so as a result of unique risk characteristics.

The current author conducted a scoping exercise of academic literature in November 2010 in order to gauge the availability of data which may offer insight into the degree of overlap between these populations, and to ascertain which of the perspectives, above, is most accurate. The results indicated a dearth in review literature of the incidence of dual offending. However, the scoping search yielded an informative meta-analysis, authored by Babchishin et al. (2011), which offers insight into the degree of overlap of demographic and psychological characteristics of online and contact sexual offender samples.

Using a fixed effects analysis to examine demographic differences between the two groups, Babchishin et al.'s (2011) meta-analysis of 27 IIOC samples (N = 4,844) found online offenders were typically younger (mean age approximately 38.6 years) than contact sexual offenders (43.6 years) and that they were more likely to be Caucasian (91.8%; n = 2, 014 and 64.6%; n = 496, respectively). The online IIOC offender sample was also found to have experienced significantly fewer cases of physical abuse (24.4%; n = 277) than the contact offender group (40.8%; n = 422), although there was no significant difference between their reports of being subject to sexual abuse. Online offenders were additionally found to be more

likely to be unmarried (50.4%) than the general population (30.9%) and more likely to be unemployed (14.7%) than a normative sample (5.8%). The profile of IIOC users found by Babchishin et al. (2011), as younger Caucasian males who are neither in employment or a relationship is consistent with the demographic profiles of IIOC users found in studies conducted by Andrews, Bonta, and Holsinger (2010), Jespersen, Lalumière, and Seto (2009) and Whitaker et al. (2008).

Again using fixed rate analysis, Babchishin et al. (2011) found IIOC possessors displayed higher levels of psychometric and physiologically-measured sexual deviance than contact offenders. The authors also reported online offenders exhibited superior levels of victim empathy and fewer cognitive distortions than their offline counterparts. These results suggest there may be grounds to consider populations of IIOC users and contact sexual offenders are separate as they present with heterogeneous psychological and demographic profiles.

However, Babachishin and colleagues discussed that the higher levels of sexual deviance which they found amongst IIOC users may have been an artefact of recruiting online offenders who had been successfully convicted. They stated that IIOC users are typically successfully convicted on the basis of possessing images of a higher level of seriousness according to the Sentencing Advisory Panel scale (SAP; Sentencing Council, 2013).

Babchishin et al. (2011) accordingly speculated that the IIOC users which comprised their online offender sample likely possessed more severe images and this, in itself, is an indicator of more extreme deviant interest. As a result of this sampling concern, the conceptual delineation of the two offender populations may be questioned to some extent.

Further doubt may be cast regarding the heterogeneity between the online-only and contact-only offender samples due to the method of statistical analysis employed by Babchishin et al. (2011). The authors only found the results, above, to be significant when they performed

fixed-effects analyses upon the data. When repeating inferential comparisons using random-effects, rather than fixed-effects analyses, no significant differences were found between the two groups in measures of sexual deviance, cognitive distortions, victim empathy or emotional identification with children. This suggests the relationship between IIOC users and contact sexual offenders may be closer than first considered. (A more in-depth review of other studies comparing the psychological characteristics of IIOC-only users and contact-only sexual offenders is presented in Chapter 3.) Further thought should, therefore, be given to factors associated with IIOC use which may impact upon the likelihood of perpetrating a contact offence.

In accordance with research examining the degree of overlap of online-only and contact-only offenders on quantitative scales, investigative efforts have been applied to explore the theoretic basis of how IIOC use may attenuate or increase the risk of contact offending. CEOP (2012) presented the results of a thematic assessment which explored police dual offending data. The results of this assessment suggest: first, individuals with a deviant sexual interest in children may manage their urge to molest a child by choosing to access IIOC instead and so reduce their risk of dual offending. Results of a review conducted by Wortley and Smallbone (2006) support this argument as they found that the use of sexualised material had a cathartic effect upon the likelihood of engaging in harmful behaviours, such as sexual aggression. Second, Reigel (2004) conversely posited that using IIOC may reinforce an online offender's urge to commit a contact offence and compound their distorted beliefs about diminished harm to the victim.

The latter concept was developed by Sullivan and Beech (2004) in their *Escalation Theory*. This stated that viewing abuse images via the Internet normalises or creates inappropriate sexual fantasies for the offender. These are reinforced through using the material as a

masturbatory aid. Sullivan and Beech (2004) went on to propose that incidental or deliberate exposure to online IIOC contributes to progressive disinhibition. They suggested that as the user habituates to lower level images they may actively seek progressively severe material to satisfy their developing interest (Jones, Caulfield, Wilkinson, & Wilson, 2011). For IIOC users who lack an element of behavioural control or those who express their need for intimacy in a maladaptive manner, the escalation may result in the commission of a contact offence (Calder, 2004).

Evidence for the role of online pornography in increasing the risk of engaging in problematic offline behaviour is offered from research in non-IIOC studies. Mancini, Reckdenwald and Beauregard (2012) reviewed longitudinal self-report and conviction data of a sample of sexual offenders in order to investigate the effect of being exposed to pornography in adolescence, adulthood and/or immediately prior to their index sexual offence upon their use of physical aggression when offending. The long term use of pornography significantly predicted raised levels of violence and victim humiliation in the index offence. Similarly, Kingston, Federoff, Firestone, Curry, and Bradford (2008) found that the self-reported use of deviant pornography (although not depicting minors) significantly predicted violent recidivism, sexually violent recidivism and sexual-only further offences amongst a group of 341 child molesters up to 15 years after custodial release. In line with concern that the use of online sexual material contributes to increased contact sexual offending risk, Fairfield (2009) reported that in the USA, registered sexual offenders are required to supply their Internet identifying data to legal authorities. These data are used by official monitoring agencies in order to identify online conduct which may be indicative of increased sexual recidivism risk. Broader analyses of online IIOC users' offending behaviour have indicated, however, that there may be non-sexually motivated reasons for accessing the material. In their respective

typologies of online IIOC users, derived from reviews of offence pattern data, Elliott and Beech (2009), Krone (2004), and Lanning (2001) reported that subgroups of IIOC offenders are primarily or exclusively motivated to handle IIOC due to a commercial interest in trading the material or distributing it for financial profit. It is unclear how directly this motivating factor may increase the risk of the perpetrator committing a contact sexual offence.

Commercial traders may become involved in producing images in order to supply the market for IIOC, and so engage in contact sexual offending. Conversely, some traders of images may condemn all aspects of contact offending, whilst justifying their non-contact offence behaviour.

In other contexts, handling IIOC has been found to serve a direct function in facilitating a contact offence. Jaffe and Sharma (2001) reported that some IIOC offenders use the material as a tool to solicit the victim into meeting offline. IIOC has been found to be used online and offline to desensitise youth victims prior to attempting to directly engage them in sexualised behaviour (Burgess & Hartman, 1987; Sheldon, 2011). Consistent with these findings, Burgess and Hartman (1987) reported that handling of IIOC was integral to manipulating underage victims within offline sex rings.

Aims and Objectives

In light of the mixed findings regarding the heterogeneity of the demographic and psychological profiles of IIOC users and contact sexual offenders; and with consideration of the conceptual arguments which suggest that IIOC use may increase or reduce the risk of an online offender committing a contact offence, there is a societal and academic need to better understand what risk IIOC users pose of perpetrating dual offences. This review seeks to achieve the first objective of this thesis: to investigate the statistical risk that an IIOC user has

already, or will go on to perpetrate a contact sexual offence. Recidivism data of IIOC users will be examined to identify instances where online IIOC access preceded any contact offences. It is hoped that this will offer insight into the potential occurrence of escalation theory in practice. The current review shall conduct a semi-systematic literature review based on the principles outlined in Centre for Review and Dissemination (CRD; 2008).

Associated literature

An updated scoping search was conducted in August 2013, which indicated that a meta-analysis, authored by Seto, Hanson, and Babchishin (2011), had been published in the intervening period which addressed a similar research question: to examine literature regarding males with online sexual offences who had also perpetrated contact sexual offences. The decision was made by the current author to continue with this review but to broaden the study inclusion criteria to incorporate official offending data sources rather than using academic literature alone. It was hoped that adapting this search strategy would build upon Seto et al.'s results and act as a source for comparison.

Seto et al. (2011) performed two meta-analyses: the first, examined the criminal histories of online offenders, and the second, considered their rates of recidivism. The results of the meta-analyses are presented here to allow for comparison with the findings of the current review. Seto et al. (2011) found that of the total reviewed sample of 4,697 online offenders, 17.3% ($n = 812$) were known to have committed contact sex offences, "mostly" (2011, p. 132) against a child. It was also found that samples using self-report data identified significantly more extensive prior histories of contact offending (55.1%, $n = 523$) than those samples which relied upon official record data (12.2%, $n = 544$). Of the total reviewed recidivism sample ($n = 2,630$), Seto et al. (2011) found that 4.6% committed a later sexual offence within a one-

and-a-half to six year follow-up period. Of the 1,247 offenders whose information regarding sexual recidivism was available, 2.0% (n = 25) perpetrated a contact sexual offence, and 3.4% (n = 43) perpetrated a further child pornography offence.

METHOD

Sources of Literature

A scoping exercise was conducted in order to identify any existing reviews or meta-analyses relevant to the current subject. This comprised a search of the following electronic databases: Database of Abstracts of Reviews of Effects (DARE), Cochrane database of systematic reviews, National institute for health and clinical excellence (NICE), National Institute for Health Research Health technology assessment, Campbell collaboration website including the Campbell Library of Systematic reviews, Evidence for Policy and Practice Information (Database of Promoting Health Effectiveness Reviews [DoPHER]), Scottish Intercollegiate Guidelines Network, PsychInfo, and Medline. The following key terms were applied: sex* offen* Internet, sex* offen* online, sex* offen*, indecent image*, child porn*, child abuse, child abuse online, child abuse Internet, online offen*, Internet, Internet sex* and online sex*. Details of the syntax used in the scoping exercise and the results yielded are presented in Appendix C. The scoping exercise was first performed on 27 November 2010 and then repeated on 20 August 2013 in order to find the most up to date material for the current review. The same search procedure was applied for the updated exercise.

The initial scoping search of November 2010 yielded two relevant results, one criminological review of child sexual offending via the Internet and the advance online publication of a

meta-analysis regarding the characteristics of online sexual offenders. While neither of these reviews primarily focused on dual offending rates, a number of the papers which they included presented online to offline cross-over data. The reference lists of these papers were incorporated into the list of citations yielded by the current review:

- Babchishin, K. M., Hanson, R. K., & Hermann, C. A. (2011). The characteristics of online sexual offenders: A meta-analysis. *Sexual Abuse: A Journal of Research and Treatment*, 23, 92-123. doi: 10.1177/1079063210370708
- Beech, A. R., Elliott, I. A., Birgden, A., & Findlater, D. (2008). The Internet and child sexual offending: A criminological review. *Aggression and Violent Behaviour*, 13, 216-228. doi:10.1016/j.avb.2008.03.007

The updated scoping exercise of August 2013 revealed that during the intervening period since the initial search, an interposing meta-analysis had been conducted which shared the same research aim as the current review:

- Seto, M. C., Hanson, R. K., & Babchishin, K. M. (2011). Contact sexual offending by men with online sexual offenses. *Sexual Abuse: A Journal of Research and Treatment*, 23, 124-145. doi:10.1177/1079063210369013

In order to ensure that the current review was as comprehensive as possible, it was decided that studies used in respective meta-analysis would be included in the current review's initial citations list (papers which were used in Seto et al.'s [2011] meta-analysis are denoted with an asterisk in Table 2).

Search Strategy

A list of pertinent citations was generated from four sources. These were: the full reference lists of the three existing reviews identified by the scoping exercises (Babchishin et al., 2011; Beech et al., 2008; and Seto et al., 2011), the results of a strategic search of online academic databases, a broader Internet search and requests for unpublished work authored by a key researchers in the field.

Online academic databases

A systematic electronic search was conducted on 22 August 2013 of the following academic databases: PsycINFO, Medline, EMBASE and Web of Science. The date parameters were confined to 1987 to the present (August, Week 3, 2013) in accordance with general academic consensus that concern regarding the use of the Internet to perpetrate sexual offences has proliferated in the last 20-25 years (Beech et al., 2008; Middleton, 2009; Taylor & Quayle, 2003).

Search terms

Keywords pertaining to the commission of sexual offending via the Internet, IIOC, contact sexual offending, recidivism and novel offence disclosure were used in the search strategy. It was initially decided that the terms used in the search strategy would only target users of *online IIOC* rather than referring to the broader population of *non-contact sexual offenders* (who may not use the Internet in the commission of their offending at all) or *online sexual offenders* (who may perpetrate online offences which do not involve IIOC). However, the use of search terms relating only to online IIOC users elicited few results. In order to account for variation in the coding of this target population by respective authors and across databases,

the population search terms were again re-extended. The inclusion of the term ‘polygraph’ in the electronic search strategy was made after the efficacy of the polygraph exam at facilitating novel disclosure was highlighted by Wilcox, Sosnowski, Warberg and Beech (2005). Consequently, the following terms were used alongside combination operators, AND and OR, as part of a Boolean search strategy (CRD, 2008).

(Internet sex* offen*) OR (Internet child* molest*) OR (child abuse imag*) OR (online
offen*) OR (child* porn*)

AND

(recid*) OR (reoffen*)

AND

(child* molest*) OR (contact sex* offen*)

AND

(disclosure) OR (polygraph)

The full electronic database search syntax used and the respective results yielded are presented in Appendices D, E and F.

Internet Search

An Internet search was performed to retrieve official departmental data, such as government crime statistic information, which may report dual offending rates, but which may not have been identified by an academic literature search. The decision to include technical reports as *grey literature* (“Gray literature”, 2006) in the current review was made in light of the fact that many of the studies identified by the academic search strategy and included in Seto et

al.'s (2011) meta-analysis, relied upon similar official conviction data to identify dual offenders.

As reported by Lösel and Schmucker (2003), there are no systematic guidelines regarding efficient Internet searches. The keywords used above as part of the Boolean search strategy of online databases were therefore applied to the Google search engine. Links to governmental technical reports were then followed. Lösel and Schmucker (2003) also highlight, as this method does not involve the systematic search of a comprehensive database, there is the risk that pertinent material may be overlooked. This is raised as limitation of the current search strategy in the discussion.

Request for unpublished work

It was decided that unpublished work would be included in the current review in order to add breadth to the findings of Seto et al. (2011). The results of the above search strategy were categorised according to which received the most citations. This was in order to identify key researchers in the field. Several were contacted by e-mail, requesting any available updating unpublished raw offending data related to the current review topic.

Study Selection

All citations generated by the above search strategy were saved. To determine which were to be retained for data extraction and analysis, all citations were subject to a review of inclusion/exclusion criteria. A summary of the inclusion/exclusion criteria is presented in Table 1.

To be included in the current review, studies needed to include participants with either a prior conviction or arrest for perpetrating an offence relating to the possession, trade or non-contact

Table 1. Inclusion/exclusion (PICO) criteria.

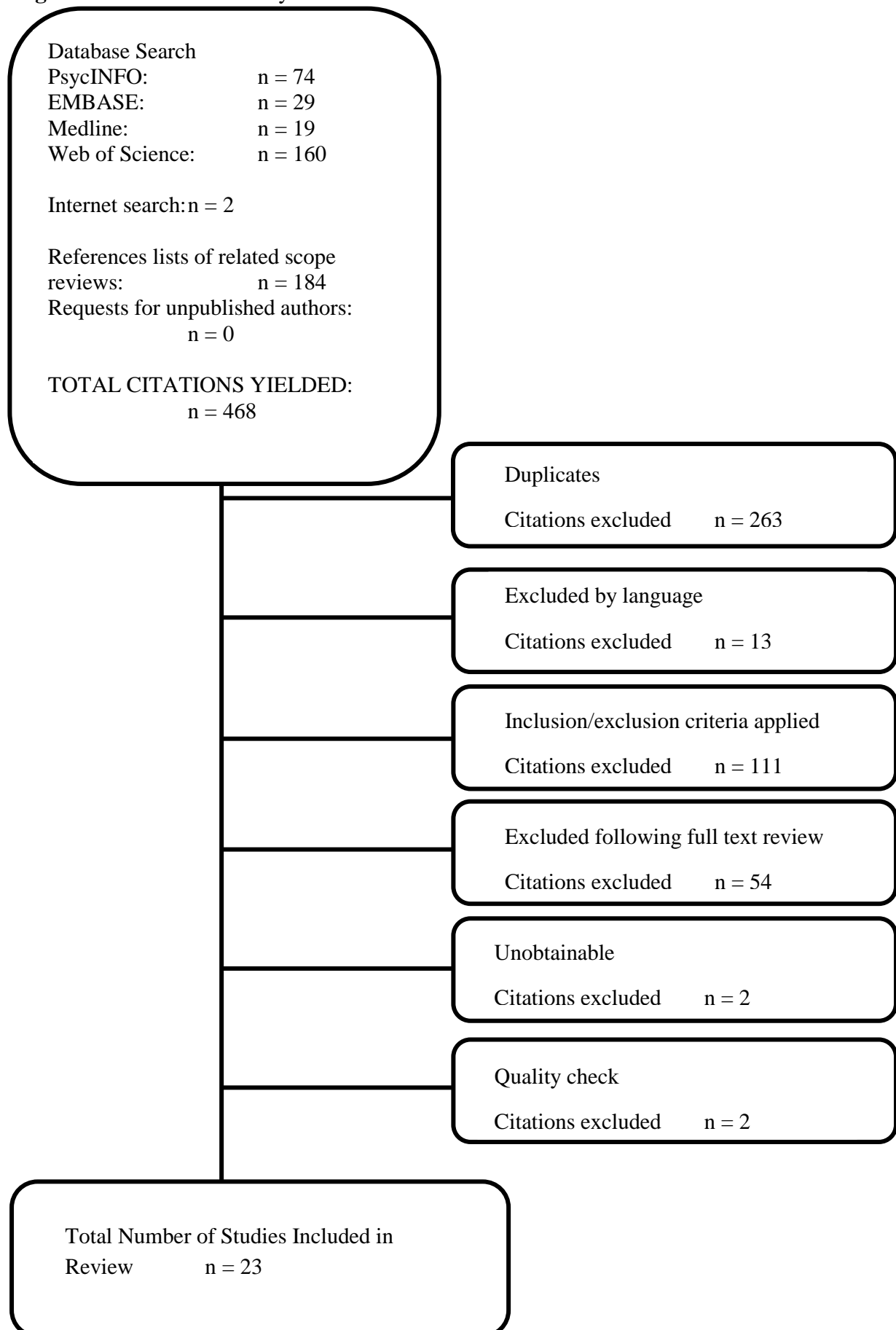
	Inclusion	Exclusion
Population	<p>Male</p> <p>Adult (over the age of legal majority for criminal conviction in the respective jurisdiction from which an individual paper was taken)</p> <p>IIOC offenders (as determined by offender self-report or official criminal data)</p>	<p>Female, mixed male and female</p> <p>Child, adolescent (under the age of legal majority for criminal conviction in)</p> <p>Non sexual offenders</p> <p>Contact sexual offenders only (no online or IIOC offence)</p> <p>Online solicitation offenders only (no IIOC offence)</p>
Intervention	Non-commission of a contact sexual offence (online IIOC offender only)	
Comparator	Commission of dual sexual offences (online IIOC offence and contact sexual offence)	Commission of contact-only sexual offence or solicitation-only online offence (no online IIOC offence)
Outcome	Ratio of online-only:dual offenders (identified by retrospective and follow up official criminal data and/or offender self-report)	
Study type	Retrospective or prospective longitudinal cohort recidivism follow-up	<p>Individual offender case study</p> <p>Studies employing stratified quota sampling</p>
Other	<p>Academic peer review journal</p> <p>Technical governmental report</p> <p>Unpublished raw offending data</p>	<p>Non-English papers</p> <p>Poster presentations</p> <p>Papers published prior to 1987</p> <p>Dissertations</p> <p>Unpublished papers</p>

production of online IIOC, or who by their own disclosure had perpetrated such an offence. There was no upper age limit; the lower age limit was determined by the age of majority at which individuals can be convicted within the respective legal jurisdictions of study samples. For those with an online sexual offence history determined by self-disclosure only, it was deemed appropriate to select samples aged over 18 according to the legal age of majority in the UK, where the current review was performed. Studies involving female samples were excluded to maintain homogeneity of the sample gender, and also to remain consistent with the majority of the literature which concentrates on the largely androcentric online offender population (Babchishin et al., 2011).

Studies were selected which reported the ratio of online IIOC users who were also found to have perpetrated a contact sexual offence in comparison to those who were found to have confined their offending to the Internet. This was ascertained by retrospective official conviction, arrest or offender self-report data. In the context of recidivism studies, comparators included whether the population sample gained a conviction, or disclosed, perpetrating a contact sexual offence within the specified follow-up period.

The results of the search strategy and study selection process are presented in Figure 1. The search strategy yielded a total of 468 citations, 182 drawn from the online database search protocol, 184 from the reference lists of Babchishin et al. (2011), Beech et al. (2008), and Seto et al. (2011), identified by the initial scoping search and two technical reports yielded by the Internet search engine procedure. The request for any unpublished data from leading authors yielded no results.

Duplicates ($n = 263$) and non-English citations ($n = 13$) were removed, leaving 192 papers for review. Each of the remaining titles and abstracts were considered for inclusion according

Figure 1. Flowchart of Study Selection Process

to the PICO criteria. This resulted in a further 111 studies being removed. Of the citations which failed to satisfy the inclusion criteria or which breached the exclusion criteria, three were poster presentations which had been incorporated in Seto et al.'s (2011) meta-analysis. Four were excluded as dissertations. Other reasons for exclusion were that citations: comprised legal reviews or editorials, they focused on offender demographic or personality characteristics rather than dual offending rates, they exclusively concerned online solicitation offenders (with no online IIOC offences, e.g., Shannon, 2008), they focused on treatment approaches without reporting recidivism rates and/or they addressed the effects upon victims rather than the offending processes.

The full text articles of the remaining 81 citations were then reviewed. This resulted in a further 54 papers being excluded. Reasons for this were similar to those at the preceding stage. Notable papers which were removed after full review included Walsh and Wolak (2005) which focused on IIOC offences of a sample of 77 online solicitation-only offenders. One report (McLaughlin, 2000) which provided dual offending rates of a sample of 200 online Internet offenders from across 40 states in the USA and 12 other countries on the basis of 'prior arrest for a sex crime' was excluded as it did not clearly define whether the prior offence related to an online or contact offence. Further, McLaughlin (2000) did not report discrete dual offending rates of online IIOC offenders ($n = 151$) from online solicitation offenders ($n = 49$). As such, the dual offending rate of 12.0% ($n = 24$) reported by the study may represent prior arrests for online offences or dual offending by online offenders who have only solicited online with no IIOC use at all.

A comprehensive review of dual offenders authored by Long et al. (2013) was excluded as it employed a stratified opportunity sampling procedure. Using conviction data, presentence reports and offender self-disclosure in interview, the authors selected equal numbers of dual

offenders and online-only IIOC offenders (N = 120). As the authors deliberately sought to fulfil an equal sample size of participants in each group, the ratio between them is unlikely to be truly representative of the two groups within the general population of online IIOC offenders.

Five papers (Osborn, Elliott, Middleton, & Beech, 2009; Neutze, Seto, Schaefer, Mundt, & Beier, 2011; Seto & Eke, 2005, 2008; Wolak, Finklehor, & Mitchell, 2009) were excluded, which had been incorporated in Seto et al.'s (2011) meta-analysis, as they presented the recidivism data of samples which were subsumed by more recent extended follow-up papers. A study authored by Elliott, Beech, Mandeville-Norden and Hayes (2009) was excluded from the current review for the same reasons. Seto et al. (2011) reported the dual offending rates amongst Elliott et al.'s (2009) online offender sample as 10.9% (n = 54), according to the proportion who had prior known sexual convictions. However, information provided by the first author (I. A. Elliott, personal communication, March 16, 2014) confirmed that the data presented in Elliott et al. (2009) was subsumed by a later study (Elliott et al., 2013), which was retained in the current review.

Two of the remaining 27 citations were unavailable. One of which was a book (Seto, 2013) which had not been published at the time of the conduct of the current review. The other was a collection of unpublished raw data, authored by Eke and Seto (2009), included in Seto et al.'s (2011) meta-analysis, which could not be obtained despite contact with one of the authors. The final 25 studies were subject to the quality assessment process.

Quality Assessment

Those studies which satisfied the inclusion criteria were subsequently assessed for their quality according to their internal and external validity. A criterion checklist was devised for

this purpose (presented in Appendix G), which considered the appropriateness of the methodology, the standardised and objective definitions of sample and offence categories, sampling bias within the parent population, detection bias and efforts to avoid confounds, and the findings of the study in relation to further empirical findings in the field. The checklist was adapted from those devised by Liddle, Williamson and Irwig (1996) and Khan, ter Riet, Popay, Nixon and Kleijnen (2001).

Selected studies were reviewed by the current author according to the above checklist and awarded a Quality Assessment Score (QAS) for each based on the following system:

- Criterion fully met = 2
- Criterion partially met = 1
- Criterion not met = 0

The QAS for each study was determined by the cumulative score total for each criterion. The total achievable score for a study was 20. It was deemed that studies which did not meet a quality score of ten would be excluded from the current review. The use of a relatively liberal minimum threshold quality score of 50% (Kmet, Lee, & Cook, 2004) was justified on the basis of the relative dearth of material directly concerned with dual offending rates and to expand upon the available literature which could be compared with the findings of Seto et al. (2011).

The QAS for each study included in the current review is presented in Table 2. Two studies were excluded due to failing to satisfy the quality assessment check (Frei, Erenay, Dittman, & Graf, 2005; Nielssen et al., 2011). Concerns with the respective studies included the failure to report any participant demographic details, small sample size and the lack of a clear definition of prior 'sexual convictions' as referring to either contact or online acts.

In order to ensure that the quality assessment was reliable, a subsection of seven of the 25 quality-checked studies was assessed by a second reviewer, who was an academic peer of the current author. Any discrepancies between the quality scores were discussed and then resolved. These chiefly concerned whether the papers had used the most appropriate investigative method to collect dual offending data. For instance, discussions were held between the author and peer reviewer to determine whether higher quality scores should be given to prospective studies which included recidivism data than retrospective archival analyses. An interrater reliability analysis using the Kappa statistic was performed to determine consistency among raters. The Kappa statistic was found to be $Kappa = 0.76$, which is described by Landis and Koch (1977) as representing *substantial agreement*. The author subsequently ensured the scoring of all other studies was consistent.

Data extraction

Data were extracted from the remaining 23 studies using a pre-designed extraction form, presented in Appendix H. The extracted data provided the basis for the below analysis. Information was recorded including the study type, the nature of the population from which the participant sample was recruited (e.g. those undergoing treatment, prison population, etc.), participant demographic information (age and county from which the sample was recruited), the source from which participants' offence history data was derived, the follow-up duration period of recidivism studies, participant dual offending rates and limitations of the study.

RESULTS

The search protocol and subsequent quality assessment check yielded 23 studies which were in the current review. A summary of the information elicited from these studies via the data extraction process is presented in Table 2 (see pages 54-72).

Sample characteristics

The cumulative sample size for all 23 studies comprised 8,791 participants. The mean number of participants used per study was 382 (SD = 950). However, there was a large degree of variation in size of samples selected in individual papers. The smallest sample size comprised only 23 participants (Quayle & Taylor, 2003) and the largest comprised 4,658 (Goller et al., 2010). Eleven of the studies included in the review had recruited fewer than 100 participants; six had samples sizes of 100 to 275 participants; and six studies obtained data for between 400 and 602 participants. One study included in the review (Goller et al., 2010) was considered to be an outlier as it accounted for over half of the cumulative sample. The median sample size (median = 100) for all 23 studies was considered to provide a more representative illustration of the average number of participants used per study.

Of the 23 retained studies, 22 had selected male only samples. One study (Galbreath et al., 2002) was retained which provided the offence history data of 39 IIOC users, including one female participant. Although the inclusion criteria specified for male only samples to be retained, the data for the female participant in Galbreath et al.'s (2002) sample was able to be removed and the dual offending rate for the remaining 38 participants was recalculated accordingly, allowing the study to remain in the review.

In total, the 23 studies drew participant data from seven countries. One study selected its sample from Ireland, ($n = 23$); one sample was drawn from the Netherlands ($n = 25$); another from Germany ($n = 273$); three studies were conducted in Switzerland (representing a total of 4,925 participants); five studies drew data from the UK (cumulative $n = 1,308$); three studies were conducted in Canada (cumulative $n = 725$); eight samples were selected from the USA (cumulative $n = 1,339$); and one study drew a mixed sample of participants from the USA and Canada ($n = 173$).

Of the 23 studies, 20 reported data regarding the age of their online IIOC offender sample. No age data was provided by the Federal Bureau of Investigation (FBI; 2002), Goller et al. (2010) or Quayle and Taylor (2003). Two studies which had each recruited samples of online-only, contact-only and dual sexual offenders did not delineate age related demographic information between each of the offender sub-groups, instead provided cumulative data for the mixed sample total (Barnett et al., 2010; Seto et al., 2006). Age data regarding online IIOC users (excluding contact-only offenders) was, therefore, available from 18 studies, representing a total of 3,578 participants. Eight studies of these studies provided the upper and lower age limits of online offenders, which ranged from 17-76 ($n = 1,203$). The average age of online IIOC offenders across 16 of the studies which provided age mean data was 39.8 ($SD = 3.0$; $n = 2,544$). This was broadly consistent with the findings of Wolak et al. (2011) who found that the median age of their 2001 and 2006 online offender samples was 40 and over ($n = 1,034$). When compared with the mean ages reported by individual studies, the cumulative mean was again found to be largely consistent. The mean age of three of the 16 studies was between 35.0-36.0 and the mean ages of participants in 12 of the other studies was between 38.0-41.0. There was one outlier (Wollert et al., 2009) with a mean sample age of 48.0 ($n = 72$).

The majority of the retained studies were retrospective cohort analyses ($n = 15$), whereby the authors identified a cohort online IIOC offenders and examined their prior offence histories for any incidences of contact sexual offending. Of those studies, five also comprised survival analyses where recidivism data was analysed for surviving members of the initial sample whose subsequent offending histories could be tracked in a follow up period from the time they were identified as online IIOC offenders. For example, in 2008 Eke et al. (2011) identified a cohort of 340 online IIOC offenders who had been placed on the Ontario Sex Offender Register in 2005 for a child abuse image offence. Participants' offence histories prior to 2005 were examined for any prior dual offences. The authors analysed subsequent offending data from the time the participants had been put on the Register in 2005 to the time the study was conducted in 2008 (representing a 2.5 year follow up period).

One paper retained in the current review was a technical report (FBI, 2002). This, in effect, comprised a retrospective cohort study as it provided data regarding the prior official criminal histories of online IIOC users arrested as part of the sting of a commercial IIOC website ('Operation Candyman', USA). Five of the 23 studies comprised survey analyses, three of which surveyed online offenders directly (Laulik et al., 2007; Lee et al., 2012; Neutze et al., 2012), the other two of which surveyed law enforcement agencies to collect for arrest information pertaining to samples of online offenders (Wolak et al., 2005, 2011).

Of the cumulative sample of 23 studies, 85.3% ($n = 7,495$) of participants were selected from official offender databases. The archives used by studies included, for example, the United States Sentencing Commission federal offender database (Burgess et al., 2012), UK Probation Service records (Elliott et al., 2013), the Switzerland Criminal Justice System criminal records database (Endrass et al., 2009), the Switzerland Federal Crime Registry (Goller et al., 2010), the COPINE Project database (Quayle & Taylor, 2003), closed case files

of the Toronto Police Service (Seto et al., 2010) and the National Juvenile Online Victimization Study (N-JOV, USA; Wolak et al., 2005, 2011).

A disproportionately small proportion (14.7%, $n = 1,296$) of the cumulative sample was drawn from forensic treatment populations, such as sexual offender treatment programs (SOTPs) or forensic mental health units, typically following probation-referral. Examples of the sources used include the UK National Offender Management Service Interventions and Substance Misuse Group (NOMS ISMG; Barnett et al., 2010), an intensive residential SOTP at a medium-security prison in the USA (Bourke & Hernandez, 2009), open community-based SOTPs in the Netherlands (Buschman et al., 2010), an outpatient intervention group for problematic Internet use at the National Institute for the Study of Prevention and Trauma (NISPTST, Baltimore, USA; Galbreath et al., 2002), community-based Sexual Offender Group Work Programme run across UK probation services (Laulik et al., 2007) and federal referrals to a private outpatient clinic for sexual offenders (Wollert et al., 2009).

The studies which collected data from file review selected participants via opportunity sampling. Five other studies recruited participants via volunteer convenience sampling (Bourke & Hernandez, 2009; Buschman et al., 2010; Laulik et al., 2007; Lee et al., 2012; Neutze et al., 2012).

Sources of dual offending information

The majority of studies ($n = 13$) used official criminal records to identify contact offences amongst their samples of online IIOC offenders (88.8% of cumulative sample, $n = 7,805$).

This included reviewing arrest data, charge information and/or conviction records. Due to the reliance of some studies on arrest data alone, some authors may have classed participants as dual offenders on the basis of un-convicted allegations (e.g., Webb et al., 2007). Three

studies discerned dual offences via offender self-report alone, obtaining data from content analysis of interviews, anonymous questionnaire and/or contemporaneous interviews in the context of mental health assessments, Social Care reports and psychological assessment at the time of their index offence. Self-report data accounted for information relating to 5.3% ($n = 469$) of cumulative sample. One self-report study was conducted in Germany by Neutze et al. (2012). The authors stated that they had few concerns participants would be reluctant to disclose prior hidden offences in interview as there is no mandatory law to report child abuse in Germany.

Five studies used a combination of offender self-disclosure and review of official criminal data to identify dual offending rates. This accounted for 4.2% ($n = 373$) of the cumulative sample. Three studies used a combination of offender self-report, official criminal data and polygraph sexual history disclosure exam to elicit information regarding dual offence rates. This accounted for 1.6% ($n = 144$) of the cumulative total. Polygraph data was collected for approximately half of Bourke and Henrandez's (2009) sample. Dual offences of the remainder of this sample were analysed using combined self-report and official criminal data.

A summary of study and sample characteristics is presented below. Table 2 also presents dual offending rates reported by individual studies. A descriptive synthesis of this information follows after the table. Due to the lack of available effect size data, and limited the remit of the current review, data analysis has been restricted to descriptive information rather than tests of inferential significance.

Table 2. Studies reporting the ratio of dual offenders amongst samples of those with online IIOC offences (n = 27; alphabetical order).

Study	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*studies used by Seto et al (2011)						
*Barnett, Wakeling and Howard (2010)	513 males convicted of an offence relating to making or possessing IIOC, living in the community by April 2007, whose reconviction data could be tracked over two year follow-up.	Official reconviction data , taken from Home Office Police National Computer (HOPNC) at 2.0yrs.	Sexual reoffence 1.4% (n = 7) Violent reoffence 0.4% (n = 2)	The sexual reoffending rates of Internet offenders were very similar to the contact sexual offender sample (1.4% and 1.6%, respectively).	10/20	Unspecified whether the sexual reoffence related to a contact sexual offence or a non-contact sexual offence (online or offline).
UK 2-year cohort survival analysis (archival data)	Participant data collected from OASys (Home Office, 2002) and the National Offender Management Service (NOMS) Interventions and Substance Misuse Group (ISMG) databases. Opportunity sample Age information not reported for online-only offender group. Whole sample of online and offline sexual offenders (n = 4,946) age range = 18-55; M = 40.0 (SD = 13.1).					

Study	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*studies used by Seto et al (2011)						
*Bourke and Hernandez (2009) USA Within subjects pre- and post-treatment measure study. Content analysis.	155 IIOC offenders participating in an intensive, residential treatment program (SOTP) at a medium-security prison. Volunteer sample. Age range = 21-71 (M=40.7, SD=11.54).	At time of sentencing: convictions, substantiated child protection investigation report, and self-disclosure in interview Self-disclosure at the end of treatment (of the sample, 52% [n = 80] had undergone a polygraph sexual history disclosure exam.	Official crime data and self-report 26.0% (n = 40) Self-report post-treatment 85.0% (n = 131) Of those polygraphed 88.8% (n = 71)	Upon completion of a sex offender treatment program, a significant number of disclosures of previously unknown contact abuse were made. Prior criminal history was found as an indicator of prolific offending, i.e. those with a known history of contact offending had twice as many victims as undetected offenders 9 participants underwent polygraph and denied a contact offence. Of these only 2 were classed 'true negatives', i.e. polygraph results were not inconsistent with their denial.	13/20	The sample was self-selected. Participants with larger and more diverse offending histories may have been more likely to choose to participate, than those recruited in a compulsory legal context. The high dual offending rate is inconsistent with other studies.
Burgess, Carretta and Burgess	101 male federal Internet offenders whose index offence related to online	Index offence conviction data and self-report	11.9% (n = 12)	47.52% (n = 48) of the sample were known to have perpetrated either a prior	10/20	The study relied on only index offence information and participant self-report. Previous

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
(2012) USA Retrospective cohort study (archival data analysis)	<p>IIOC use. Data was obtained from the United States Sentencing Commission (USSC) relating to convictions secured in 2008.</p> <p>Opportunity sample</p> <p>Age range = 19-64 (M = 40.8; SD not reported).</p>	data (extracted from pre-sentence reports).		contact sexual offence or a sexual offence relating to IIOC.		<p>sexual offending records were not obtained. There may be hidden contact sexual offences and so the dual offending rate may be an underestimate.</p> <p>The nature of the sample's index Internet offence is not made clear</p>
Buschman et al. (2010) Netherlands Content analysis	<p>25 males were recruited by voluntary convenience sampling in 2004 and 2005 from several open SOTPs run in the Netherlands. All were in treatment for child abuse image possession and had no known prior offending history upon conviction.</p> <p>Age range = 24-65 (M=41.0; SD not reported).</p>	Archival convictions, psychometric self-disclosure, and polygraph sexual history disclosure exam	0.0% (n = 0)	<p>All denied having perpetrated a contact offence. Polygraph examinations facilitated the disclosure of an additional 36% of participants (n = 9) having masturbated while watching children in public; and 16% (n = 4) disclosed having solicited children via the Internet.</p> <p>56% (n = 14) disclosed having "cruised" for children in a public place with the</p>	12/20	<p>The sample size used was relatively small.</p> <p>The sample comprised abuse image possessors, not specified online.</p> <p>The no dual offending rate result conflicts with related academic literature.</p> <p>Disclosures of "cruising" and soliciting children are indicative of contact offence</p>

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
				intent of seeking contact; 20% disclosed photographing unknown children incidentally for masturbation material – described as a <i>high risk behaviour</i> .		behaviour, although the no contact offences were disclosed.
Eke, Seto and Williams (2011) Canada	541 males selected from the Ontario Sex Offender Registry, each convicted of a child abuse image offence.	Occurrence reports and Police charge information.	Full sample prior contact offences: 0.7% (n = 23)	Data were reported for the full sample's further engagement in general offending in the 4.1 year follow-up: 6.8% (n = 37) committed a further IIOC offence; 8.5% (n = 37) were found to commit any broader non-contact offence; 6.8% (n = 37) committed a violent further offence.	13/20	The data for reoffending includes <i>pseudo-recidivism</i> , i.e. later convictions for an offence committed prior to the original Index offence, on the basis of further investigation.
Retrospective cohort study with survival analysis (archival data)	201 of which were the cohort used in Seto and Eke's (2005) study of offenders placed on the Register. 340 offenders who were placed on the Register in 2005 were selected. Opportunity sample Age range at the time of the sample's Index	The full sample follow-up period was 4.1 years. Seto et al's (2005) 201 sample were followed up at 2.5 and 5.9 years.	Full sample later contact sexual offence: 3.9% (n = 21) Seto and Eke (2005) sample (n = 201) contact offence after 2.5 years: 4.5% (n = 9)	Contact sexual recidivism was predicted by criminal history, particularly violent offense history 3.2% (93).		The study delineates child abuse image possessors from a broader category of non- contact sexual offenders. It is not explained what this constituted or the role of the Internet in it. No information was included regarding the source or nature of the child abuse images, which may be characteristic of certain sex offender risk types.

Study	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*studies used by Seto et al (2011)						
	conviction = 19-76 (M=39.4, SD=12.6).		Seto and Eke (2005) sample (n = 201) contact offence after 5.9 years 6.0% (n = 12).			The study relied on Police data only which may underestimate the true incidence of sexual offending, particularly non-contact.
Elliott, Beech and Mandeville-Norden (2013)	602 males convicted of an internet-related sexual offense (e.g. the possession, distribution and/or making of indecent images of persons aged under 18), drawn from a community sample.	Conviction data and presentence reports.	23.8% (n = 143)	Of the dual offenders, the index offence of 67.8% (n = 97) involved both online and contact aspects. The index offence of the remaining 32.2% (n = 46) of dual offenders was Internet related but they were also known to have perpetrated a prior contact sexual offence against a child.	13/20	Relied upon official charge information alone.
UK	Online solicitation offenders were excluded from the sample.					
Retrospective cohort study (archival data analysis)	Opportunity sample.					
	Age data available for 583 of the combined					

Study	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*studies used by Seto et al (2011)	sample of online and dual offenders. Age range not reported; M = 41.0 (SD 11.6). Age data available for 444 of online-only group M = 39.9 (SD = 11.3) Age data available for 139 of dual offence group M = 42.0 (SD = 11.9)					
*Endrass et al. (2009)	231 male child abuse image users selected from the Switzerland Criminal Justice System individual criminal records, in 2002. All had been convicted of the online possession of child abuse images following the Police closure of the commercial international Internet child abuse image provider, "Landslide Promotions".	Offence history established by conviction records; reoffending was determined by ongoing investigation, charges or convictions . Recidivism rates were examined for	Prior offence: 0.8% (n = 2) Reoffence: 0.8% (n = 2)	Of the prior convictions, a further 3.3% (n = 8) had further non-contact sex offence convictions and 0.4% (n = 1) had a non-sexual violent offence.	13/20	The sample comprises online child abuse image possessors who purchased indecent material (requiring knowledge of a foreign language and credit card access) and so may not be reflective of the broader population of OCPO. The study does report the sample's further engagement in non-contact sexual offending but it does not report whether

Study	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*studies used by Seto et al (2011)						
	Opportunity sample	both contact and non-contact offences in a six-year follow-up period until 2008.				this was online or not.
	Age range at the time of Index offence 18-65 (M=36.0; SD not reported).					
Federal Bureau of Investigation (2002)	89 online child abuse image possessors, arrested following the Police sting of a commercial Internet network trading in child abuse images, "Operation Candyman."	Conviction data, and self-disclosure in interview.	30.0% (n = 27)	Amongst those involved in the possession and trade of online child abuse images were professionals held in a position of responsibility with children (e.g. teachers' aides, guidance counsellors) and military and legal professionals. Due to the reported incidence of dual offending, recommendations were made for greater stringency in the assessment of child professionals.	11/20.	This is not an academic peer-review journal.
USA						The sample was relatively limited in size as the estimated number of online offenders involved in "Operation Candyman" was 7,000.
Archival data analysis	Opportunity sample					Although self-disclosure was facilitated in interview this was, in part, used in plea bargains, and so disclosures may be representative of an incentive to bargain rather than true offending incidence.
	No age related information reported.					

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*Galbreath, Berlin and Sawyer (2002) USA Retrospective cohort study (archival data analysis)	38 male adult offenders receiving outpatient treatment at the National Institute for the Study of Prevention and Treatment of Sexual Trauma (NISPTST, Baltimore) due to problematic Internet use including IIOC access. Opportunity sample Age M = 41.0 (SD 12.4)	Charge data	7.9% (n = 3)	The original sample included one female online offender who was excluded from the analysis to maintain homogeneity of the sample.	10/20	The study does not specify the nature of participants' online offenses. Relatively small sample size.
Goller, Graf, Frei and Dittman (2010) Switzerland Retrospective cohort study (archival data analysis)	4658 males of all offenders convicted of the online possession of child abuse images, as recorded by the Switzerland federal crime registry in November, 2008. No age information reported.	Conviction data.	7.9% (n = 367)	Approximately 8% of online child abuse image possessors had committed a contact sexual offence. Further analysis showed that 20.7% (n = 964) had recidivated generally; 9.8% (n = 456) of online only offenders had committed a further non-contact offence.	13/20	Little information provided regarding the nature and extent of further online offending.

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*Laulik, Allam and Sheridan (2007) UK Offender survey study	30 male offenders convicted of possessing (n = 24) or taking (n = 6) IIOC online attending a 3- year Community-based Sex Offender Group Work Programme across five probation services in England. Volunteer sample. Age range = 24-62 (M = 40.7; SD = 10.7)	Conviction data was supplied by Probation Officers on behalf of the offenders who volunteered to participate.	6.7% (n = 2)	In addition to the two participants who were identified as dual offenders, two further participants had prior convictions for previous Internet offences.	11/20	Relatively small sample size. It is unknown whether those offenders who had a conviction for taking IIOC included those participants who had convictions for a contact offence.
Lee, Li, Lamade, Schuler and Prentky (2012) USA and Canada Offender survey study	173 adult male offenders recruited from 11 community settings across seven US states and Ontario; and from 14 prisons across three US states, each with an arrest history for Internet-related IIOC offences. Volunteer sample. Age of combined online-	Participants were assigned to groups according to prior arrest data. Further offence information was ascertained by participant self- report to an anonymous questionnaire.	34.7% (n = 60)	Participants completed a questionnaire designed by the authors which yielded information relating to risk factors associated with sexual offending. Participants' responses to items on two scales (Antisocial Behaviour and Internet Preoccupation) predicted the incidence of contact sexual offending. Dual offenders and online	13/20	The study relied upon arrest data not conviction data. Arrest data is not conclusive of culpability. The nature of online offences was not specified. "Most" of the sample are reported to have been convicted of the possession of IIOC, however, others are posited to have been involved in its production and

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
	only and dual offender groups (n = 173) M = 41.2 (SD 24.3); age range not reported. Age of online-only group (n = 113), M = 41.0 (SD = 12.7). Age of dual offence group (n = 60), M = 41.3 (SD = 11.6).			only offenders differed in their responses to these		distribution. The sample may represent a heterogeneous population of IIOC users.
Neutze, Grundmann, Schermer and Beier (2012) Germany Offender survey study	273 self-referred IIOC users to a German treatment program offered to those concerned about their sexual preference for children. Volunteer sample. Combined online-only and dual offenders (n = 273), age M = 38.1 (SD = 10.8). IIOC only group (n =	Self-report in interview. Self- referred individuals could report officially unknown sex offenses against children without fear of legal sanction as there is no mandatory child abuse reporting law in	52.7% (n = 144)	Of those classified as IIOC only offenders 38% (n = 49) had been detected by law enforcement. In the group of mixed offenders only 7% (n = 10) had been detected for both offenses, 15% (n = 21) for only their IIOC offenses and 21% (n = 30) for only their child sexual abuse offenses.	10/20	Relied on self-report only, no verification of official offending data to confirm group classifications.

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
	129), age M = 37.0 (SD = 10.5). Dual offenders (n = 144), age M = 39.2 (SD 11.1).	Germany.				
Niveau (2010). Switzerland Retrospective cohort study (archival data analysis)	36 males arrested by Swiss Police as the result of the online possession of child abuse images. Opportunity sample Aged 18-61 (M=35.0; SD not reported)	Self-disclosure statements, conviction data.	5.5% (n = 2).	Further to the reported incidence of prior dual offending, 13.9% (5) online offenders disclosed having engaged in <i>high risk</i> <i>behaviours</i> , including “travelling to countries known for sex tourism” (pp. 527), having reported engaging in disputes with neighbours regarding their relationships with children, and having changed residence frequently, without expressed reason.	13/20	Relatively small sample. No further disclosures of unknown sexual offending were made, which raises questions as to the efficacy of self-disclosure. However, due to the above findings supporting identification of further offences via self- disclosure, it may be that the methods employed by Niveau (2010) were lacking.
Osborn, Elliott, Middleton and Beech	73 adult male Internet offenders under community supervision of the West Midlands and	Conviction data.	0.0% (n = 0)	Participants were all assessed using the Static 99 (Hanson & Thornton, 2000) before reconviction data were	10/20	Dual offending rates may have been hidden by undetected offences – a potential confounding artefact of using

Study	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*studies used by Seto et al (2011)						
(2010) UK Retrospective cohort study with survival analysis (archival data)	Warwickshire regions of the National Probation Service of England and Wales. 95% of the sample had been convicted of making, possessing or downloading IIOC; the remaining 5% had also been convicted of distributing and/or directly trading images. Opportunity sample Age range not reported; M = 40.5 (SD = 9.3)	Recidivism for sexual offences was tracked over a 1.5-4yr follow-up period using reconviction data.	Reoffence: 0.0% (n = 0)	analysed. None had been classified as Low risk. 1.4% (n = 1) were classified as Moderate Low Risk; 8.2% (n = 6) as Moderate Risk; and 90.4% (n = 66) as Moderate High or High Risk		PNC conviction data alone. The no dual offending result is inconsistent with related literature.
*Quayle and Taylor (2003) Ireland Content	23 male offenders convicted of downloading IIOC. Data was derived from the COPINE Project at the Department of Applied Psychology,	Self-report in interview	47.8% (n = 11)	Of the total sample, 87.0% (n = 20) had been involved in the trade of IIOC; 13.0% (n = 3) had produced and traded the material; 21.7% (n = 5) had produced the images but	11/20	The study does not clarify whether the reported dual offenders had been engaged in trade or image production or solicitation.

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
analysis	University College Cork. Opportunity sample Age data not reported.			not been involved in trade; 4.3% (n = 1) had engaged in the solicitation of a minor online.		No official offense data was used to verify participants' self-report. The study used a relatively small sample size.
*Seto, Cantor and Blanchard (2006) Canada Retrospective cohort study (archival data analysis)	100 males, referred to a mental health institution (Kurt Freund Laboratory of the Centre for Addiction and Mental Health) in Toronto, Canada. Referrals were via probation services, lawyers, self-referred by physician, and correctional institutions. Selected from an initial sample of 685. Opportunity sample Age of whole sample of contact only, online only and dual offenders (n = 685 M=36.8, SD = 12.0).	Police charge data taken from official criminal records, probation or parole reports	43.0% (n = 43)	Of the reported dual offenders, several were noted as having more than one victim aged 14 or younger. Further analysis of a phallometric measure of paedophilic deviancy found that the child abuse image only sample was almost three times as likely to show deviancy than contact offenders.	10/20	The study highlights that the sample is of forensic child abuse image possessors, and so is not wholly representative of all child abuse image users who may go undetected. Hence, the incidence of dual offending may be over-represented. Further, the sample does not report what proportion of the abuse image possession was perpetrated online. There was little psychological information provided to consider the aetiology of offending.

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*Seto, Reeves and Jung (2010) Canada Retrospective cohort study (archival data analysis)	84 male offenders convicted for the possession or distribution of IIOC. The data of 50 of the total sample was obtained from closed case files made available by the Toronto Police Service; data for the other 34 was obtained from individuals referred to the Northern Alberta Forensic Psychiatry service. Opportunity sample Age of combined online only and dual offenders (n = 84), range = 17-65 (M = 35.7, SD = 11.6)	Conviction data, presentence reports.	Prior contact offences against a child: 13.1% (n = 11) Police sample: 14.0% (n = 7) Clinical sample: 11.8% (n = 4)	The respective dual offending data refers to prior contact offences perpetrated against either an adult or child. When including prior contact offences against adults, dual offending rates were Total sample: 17.9% (n = 15) Police sample: 18.0% (n = 9) Clinical sample: 17.6% (n = 6)	14/20	There were missing data due to the reliance on retrospective file review. Data were obtained from participants' self-reports in interview, however, interviews were conducted by different professionals and for different purposes and so may have been inconsistent in the focus of the information elicited.
Seto, Wood, Babchishin and Flynn	39 participants selected from the Arkansas Sex Offender Screening Risk	Participants were allocated to groups on the basis of	51.3% (n = 20)	IIOC offenders disclosed more unknown contact offences than samples of	14/20	The nature of the undetected "hands on offense" which IIOC offenders disclosed during

Study	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*studies used by Seto et al (2011)						
(2012)	Assessment (SOSRA) Program who had engaged in online IIOC offending. Of these 38 denied having perpetrated a previous contact sexual offence and had no official record of contact offending. Each had undergone a polygraph exam as part of the SOSRA program.	arrest data (National Crime Information Centre reports) child maltreatment reports, probation/parole notes and SOTP reports. Details of unknown prior offences were ascertained via offender self-report in interview and polygraph exam .		lower risk contact offenders and solicitation offenders (51.4% [n = 19], 50% [n = 19] 29% [n = 20.3], respectively).		polygraph interview was not clearly defined.
USA				64.9% (n = 24) of the IIOC offenders were identified as having 'possibly' perpetrated a hands-on offense based on: (a) failed polygraph, (b) new admission during pre- or post-polygraph interview, or (c) documentation (e.g. child welfare reports) indicating a possible additional offense.		
Content analysis	Opportunity sample Age of combined online only and dual offenders, range not reported (M = 39.9, SD = 12.0).			One dual offender was originally assigned to the contact sexual offender sample but then disclosed an unknown prior IIOC offence.		

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*Webb, Craissati and Keen (2007) UK Retrospective cohort study with prospective 18 month follow up	90 males convicted of the online possession of child abuse images, as selected as individuals in the London Probation Area, from the Lucy Faithfull Foundation, and referred by the Challenge Project. Opportunity sample Age of combined online only and dual offenders, range not reported (M=38.0 (SD10.0).	Police charge data, gathered from probation files (pre-sentence reports, and prosecution reports. This includes un- convicted allegations The sample was assessed for recidivism after 18 months.	Prior: 14.4% (n = 13) Reoffence: 0.0% (n = 0)	No online offender was found to have later perpetrated a contact offence in the follow-up period. Further analysis found that (n = 13) online offenders engaged in <i>high risk behaviour</i> which may have led to contact offending in a longer follow-up design.	13/20	The sources of offence history was inconsistent across the sample. It is noted that psychology reports and Social Care reports regarding the sample were not universally accessible. This may have produced some bias in the opportunity for offenders to have disclosed unknown offences to professionals. Online sex offenders were categorised as having a previous sexual offence contact history if allegations had been made against them, without a subsequent conviction. These offences are not categorically proven, and so the reported incidence of dual offending may be over-represented. The follow-up period was relatively short.

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*Wolak, Finkelhor and Mitchell (2005) USA Survey of law enforcement agencies	429 males arrested in the US for the possession of child abuse images between June 2000 and July 2001, selected via the National Juvenile Online Victimization (N-JOV) Study. Opportunity sample Age of combined online only and dual offenders: <18 = 3.0% (n = 14) 18-25 = 11.0% (n = 47) 26-39 = 41.0% (n = 170) >40 = 45.0% (n = 198)	Arrest information supplied by multiple federal agencies.	11.0% (n = 47)	The reported <i>dual offending</i> rate relates to offenders who were originally investigated for the possession of child abuse images, but where they were later found to have sexually victimised children in contact offences. 2% (n = 9) of cases found online child abuse image possessors attempted to solicit undercover investigators into being their contact victim.	14/20	The study cites that 40% of the cases of all online child abuse image possession in some manner involved allegations or investigation into contact sexual offending. Also, 15% of online image cases included investigation into online soliciting of minors. However, these did not all result in arrests for the (attempted) alleged contact offences. It is possible that the reported dual offending rates are therefore an underestimate, and that true dual offender rates may be up to 55% (n = 242). Despite discussing incidence of online soliciting, no further attempt was made to report its role in dual offending arrests.
Wolak, Finkelhor and Mitchell	416 males arrested regarding the online possession of child abuse	Arrest information supplied by	16.0% (n = 76)	The reported <i>dual offending</i> rate relates to offenders who were originally investigated	14/20	The study additionally cites that 24% of the cases of online child abuse image possession

Study	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
*studies used by Seto et al (2011)						
(2011)	images, using a repeat of the above search strategy employed by Wolak et al (2005) applied to all males arrested for IIOC in the calendar year of 2006. Part of the N-JOV study. The subsample of 416 were extracted from a total sample of 605, excluding those whose primary arrest was in relation to online solicitation or contact sexual abuse.	multiple federal agencies.		for the possession of child abuse images, but were then found to have sexually victimised children in a prior contact offence.		in some manner involved allegations or investigation of contact or non-contact. Also, 17% of online image cases included investigation into online soliciting of minors. However, these did not all result in arrests for the (attempted) alleged contact offences. It is possible that the reported dual offending rates are therefore an underestimate, and that true dual offender rates may be up to 41% (265).
USA						
Survey of law enforcement agencies	Opportunity sample Age of combined online only and dual offenders: <18 = 5.0% (n = 28) 18-25 = 18.0% (n = 94) 26-39 = 28.0% (n = 179) >40 = 49.0% (n = 304)					Despite discussing incidence of online soliciting, no further attempt was made to report its role in dual offending arrests.

Study *studies used by Seto et al (2011)	Sample description (N)	Source of offending information	% with contact offences (n)	Findings (n)	QAS	Limitations of the study
Wollert, Waggoner and Smith (2009) USA Retrospective cohort study with survival analysis (archival data)	72 male offenders under federal supervision referred to outpatient treatment services, following conviction for offences relating to IIOC. Opportunity sample Age M = 48.0, no other age information reported.	Official conviction data extracted from presentence reports, police records, charging documents; and offender self- report taken from psychological reports and self- treatment records. Follow-up period of four years	Prior offence: 13.9% (n = 10) Reoffence: (sexual contact) 0.0% (n = 0)	Although none of the participants were found to have perpetrated a contact sexual offence during the four year follow up period, 1.4% (n = 1) of the sample did perpetrate a further offence relating to the possession of IIOC.	13/20	The finding that no participants perpetrated a dual offence over the four year follow up period is inconsistent with other findings. The role of possible online solicitation is not explored in relation to the contact offences of the participants found to be dual offenders.

Table 3. Percentage of prior dual offending rates found by the 22 studies.

% of prior contact offences found amongst samples of online IIOC offenders	Number of studies (n= 22)
0.0	2
0.7-0.8	2
5.5-7.9	4
11.0-16.0	6
23.8-34.7	3
43.0-52.7	4
88.8	1

Table 4. Dual offending rates according to source of offending information and sample population

Source of offending information	Mean dual offending rate (%)
Official criminal records only	10.0 (n = 730)
Offender self-report only	45.8 (n = 215)
Official criminal records and offender self-report combined	17.1 (n = 51)*
Official criminal records, offender self-report and polygraph sexual history disclosure exam	63.2 (n = 91)
Sample source	
Official offender database	11.0 (n = 841)
Treatment population	44.2 (n = 346)

*excluding Bourke and Hernandez (2009) pre- and post-treatment sample data.

Dual offending rates

Of the 23 studies selected, 22 provided data regarding the percentage of online IIOC offenders who were found to have perpetrated a prior contact offence(s). A summary of the

range of dual offending rates found by studies is presented in Table 3. The percentages of dual offending across these studies varied from 0 ($n = 0$) to 88.8% ($n = 71$). The median dual offending rate was 13.5%. Due to the wide range of results reported by individual papers and the diversity of samples, it was considered that a cumulative mean dual offending rate for all studies would provide a distorted representation of the spread of the data. Therefore, further analysis was conducted to see whether similar clusters of dual offending rates could be seen between studies on the basis of their use of different sources of offending information, the method of data collection and the population from which the sample was drawn. Table 4 presents a summary of these analyses.

Only three studies (Elliott et al., 2013; Lee et al., 2012; Neutze et al., 2012) reported data regarding the mean ages of IIOC-only offenders (without any contact offences) and those who were found to have perpetrated dual offences. Both age groups were largely comparable. The mean age of online-only offenders was which was marginally lower ($M = 39.3$; $SD = 11.5$; $n = 686$), than the mean age of dual offenders ($M = 40.8$; $SD = 11.5$; $n = 352$).

Dual offending rates according to information source

When analysing how many online IIOC offenders were found to have perpetrated an earlier contact offence by looking at official criminal record data alone, the mean dual offending rate was 10.0% ($n = 730$). However, there was a considerable degree of variation between these studies in the rates they found, ranging from 0.0% ($N = 73$; Osborn et al., 2010) to 43.0% ($n = 43$; Seto et al., 2006). The median was considered to perhaps provide a more accurate representation of the average dual offending rate, however, this was comparable to the mean, equating to 9.5%.

As the sample selected by Goller et al. (2010) represented approximately two thirds of the dual offending data based on official criminal records, concern was raised that such a big sample may have skewed the cumulative findings. However, even after removing Goller et al.'s (2010) figures from the analysis, no marked difference was seen, that is, a similar proportion of online offenders were found to have committed prior contact sexual offences, 13.8% ($n = 363$). Indeed, Goller et al. (2010) reported an identical dual offending rate to Galbreath et al. (2002) of 7.9% ($n = 367$ and $n = 3$, respectively). It was thought that the proportion of dual offenders found by Seto et al. (2006) represented an outlier to other studies which relied on official criminal data alone. It should be noted that Seto et al.'s (2006) sample was drawn from a database of participants who had all undergone treatment regarding their sexual offending behaviour. Separate analyses based on sample sources were, therefore, conducted and the results are reported below.

Studies which relied on offenders' self-report alone to identify the perpetration of prior contact offences, elicited higher rates of dual offending than those which had used official criminal records alone. Dual offending rates across the three studies ranged from 34.7% ($n = 60$; Lee et al., 2012) to 52.7% ($n = 144$, Neutze et al., 2012). The mean proportion of dual offenders found by self-report studies was 45.8% ($n = 45.8\%$). It should be noted that two of the three samples used by these studies were recruited on an entirely voluntary basis. All three were drawn from treatment populations.

Dual offending rates reported by the four studies which reviewed participants' offence histories via a combination of official criminal data and offender self-report found more varied responses than those which had used self-report alone. Cross-over online and contact offence rates ranged from 5.5% ($n = 2$; Niveau, 2010) to 30.0% ($n = 27$; FBI, 2002). The mean dual offending rate was 17.1% ($n = 51$). The median rate was lower although

comparable (median = 12.9%). One interesting finding was reported by Bourke and Hernandez (2009). They reviewed the offending histories of all 155 of their participants using official criminal records and offender self-report prior to them undertaking treatment regarding their offending. The proportion of dual offenders identified prior to treatment was 26.0% (n = 40). However, when the process was repeated following completion of an SOTP course, over three times as many online offenders disclosed having previously perpetrated a contact offence, with a dual offending rate of 85.0% (n = 131). This may suggest that an element of the treatment programme may have facilitated the ease of disclosure of hidden contact offences amongst an online IIOC offender sample.

The three studies which used a combination of official criminal record data, offender self-report and polygraph sexual history disclosure examination yielded an even greater range of dual offences amongst their samples of online IIOC offenders, 0.0% (N = 25; Buschman et al., 2010) to 88.8% (n = 71; Bourke & Hernandez, 2009). The dual offending rate of 51.3% (n = 20) found by Seto et al. (2012) using the same method to identify mixed offences broadly equated to the mean.

Dual offending rates according to source of sample.

The above data indicated a trend that studies which selected participants directly from treatment populations rather than official criminal record databases (such records of offenders under the supervision of Probation Services, arrest records, etc) appeared to yield greater dual offending rates. It was, therefore, considered salient to perform further descriptive analysis to explore this. It should be noted that it is likely that participants drawn from official offender databases had undergone treatment at some time, however, the nature and degree of the treatment they had received between samples would have varied in nature and duration. As

such, the following comparison between dual offending rates of samples drawn entirely from treatment population and those which weren't should be regarded as very broad.

It was found that 44.2% (n = 346) of online offenders who had either been enrolled on a sexual offender treatment programme, or who were resident in a forensic mental health centre were dual offenders. Conversely, only 11.0% (n = 841) of online offenders drawn from official forensic offending data were found to have also committed a contact sexual offence. Again, in light of the risk that Goller et al.'s (2010) study may have skewed the data, the dual offending rate of those studies relying on official offending records was recalculated. After the study had been removed, the dual offending rate was only marginally higher at 15.8% (n = 474).

Recidivism

Six of the studies presented in Table 2 provided recidivism data which followed the later offending patterns of IIOC users. Across the studies, the follow-up period typically commenced from time of an offender's conviction for their online IIOC offence. In cases where participants had served a custodial sentence, the follow up period commenced from the time of their release into the community. The six recidivism studies comprised a total sample of 1,520. The follow-up periods ranged in duration from eighteen months (Webb et al., 2007) to six years (Endrass et al., 2009).

In keeping with the remit of the current review, no weighted quantitative analysis of the proportion of recidivist contact sexual offences perpetrated by the overall sample at follow up intervals was performed. Hence, the following analysis is purely descriptive and highlights broad comparisons trends within the data.

A general synthesis of the data suggests instances of later online-to-offline offending cross over were rare. The highest rate of recidivist dual offending was found by Eke et al. (2011), who reported that of a sample of 201 online IIOC offenders for whom they had tracked later official criminal data for 5.9 years, 6.0% ($n = 12$) had committed a contact offence. Eke et al. (2011) also provided the rate of recidivist dual offending amongst the same cohort at 2.5 years and found that within that time only 4.5% ($n = 9$) of the sample had gone on to perpetrate a contact offence. As such, a broad directly proportional relationship can be seen between the amount of time following an offender's conviction for an online IIOC offence and their increasing likelihood of committing a contact sexual offence. However, this is a relatively fragile trend. When the cohort was subsumed by the remainder of Eke et al.'s (2011) larger cumulative sample of 541, there was a marginally lower rate of dual recidivism at 4.1 years (3.9%, $n = 21$). Concerns may also be raised regarding the validity of the data as being truly indicative of dual offending. This is due to Eke et al. (2011) having classed offenders as having perpetrated a dual offence on the basis of Police occurrence reports and charge data, where convictions were not necessarily secured.

Eke et al. (2011), and Endrass et al. (2009), suggest there may be a moderating effect of the nature of an offenders' prior criminal history upon their likelihood of perpetrating a later contact offence. Both authors found that those committing later contact sexual offences had done so before, that is, they were known dual offenders. Endrass et al. (2009) proposed this as an explanation for the relatively low recidivism rate amongst their sample after six years (0.8%, $n = 2$) being constant with the base rate of prior contact offences found in their sample.

One other study reported a similarly low rate of recidivist offending at two years. Barnett et al. (2010) reported that after 24 months, 1.4% ($n = 7$) of their sample were found to have

perpetrated a further sexual offence. However, the authors do not specify whether this was indicative of dual offending or whether the further offence pertained to a non-contact or online sexual misdemeanour. Three studies found no instances of recidivist dual offending amongst their samples of 73 (Osborn et al., 2010), 90 (Webb et al., 2007) and 72 (Wollert et al., 2009) over periods of 18 months to four years.

DISCUSSION

The primary objective of this review was to investigate the statistical risk that an IIOC user has already, or will go on to perpetrate a contact sexual offence, thereby, offering some insight into the degree of overlap between populations of contact sexual offenders and IIOC users. It did this by examining existing literature which reported dual offending rates, that is, the proportion of participants drawn from samples of IIOC users who were also found to have perpetrated a contact sexual offence. By employing a semi-systematic literature review method, a total of 468 citations was yielded. Following the application of PICO inclusion and exclusion criteria, and a subsequent quality assessment check, 23 studies were retained.

During the data synthesis process, studies were separated into those which explored offending histories ($n = 22$) and those which comprised prospective recidivism studies ($n = 6$).

The results of the descriptive data analysis revealed an overlap between populations IIOC users and contact sexual offenders. Rates of dual offending found by studies included in the review ranged from 0.0% ($n = 0$) to 88.8% ($n = 71$), with a median rate of 13.5%. As such, on average over one tenth of IIOC users were found to have also sexually harmed a victim in person. These findings provide evidence against the first of Quayle et al.'s (2000) hypotheses

which postulated that those who access IIOC pose a conceptually discrete risk from those who contact offend.

However, due to the very broad range of dual offending rates (range = 88.8%) found, the true extent of overlap between IIOC users and contact sexual offender populations is unclear. Different rates of online-to-offline cross-over were found between studies according to the source of information used to record offence data, and according to the nature of parent population from which participants were recruited. The majority of samples included in the current review were selected from retrospective analyses of official criminal data, which elicited a mean dual offending rate of 10.0% ($n = 730$). A higher mean dual offending rate was identified when derived from offender self-report data alone (45.8%, $n = 215$); and a higher still rate was found when data were drawn from mixed sources, which included official arrest records, offender self-report information and polygraph sexual history disclosure examinations (63.2%, $n = 91$). Studies which recruited samples from official offender databases elicited a dual offending rate of 11.0% ($n = 841$), while participants selected from populations undergoing intervention who had actively volunteered to engage in studies were found to have a higher dual offending rate of 44.2% ($n = 346$). The findings of previous research provide the basis for insight as to why there may be such variation.

Abel et al. (1987) suggested that forensic sample data, which comprises official conviction or arrest records, likely under-represent true offending rates due to the number of offences which are not detected by legal authorities. Beech, Fisher and Thornton (2003) expanded upon this by explaining that in cases where an offence has been committed, the victim may not choose to report the offence or there may be a lack of sufficient technical evidence to pursue a complaint in cases where the victim does disclose. Abel et al. (1987), and Ahlmeyer, Heil, McKee and English (2000) argued that offenders' self-report is likely to provide a more

accurate representation of the true incidence rates. However, offender self-report data should be treated with equal caution. Offenders may be unlikely to disclose novel offences due to their fear of further legal repercussions. As such, dual offending data extracted from interview sources alone may be under-representative due to the offender's likelihood of engaging in denial or minimisation of offences. Conversely, samples of offenders drawn from treatment environments may be more likely than those who have not undergone treatment to disclose hidden offences as openness and honest engagement are often goals of such therapeutic programmes (Hanson & Morton-Bourgon, 2007). Notably, one study included in the current review was derived from interview data of offenders who had been offered immunity from prosecution for previously undisclosed offences (Neutze et al., 2012). The removal of fear of further legal repercussions in this instance, may have disinhibited the offenders and facilitated disclosure of hidden (contact) offences.

Hence, the findings of the current review may suffer from some element of sampling bias due to the disproportionate use of official criminal record data, and so the reported rate of dual offending may be an under-estimate. Conversely, however, it could be argued that the dual offending rates drawn from offender self-disclosure may over-estimate the true incidence, as a self-selected sample taken from a therapeutic environment may comprise more prolific offenders who were looking to access support for their extensive offending behaviour (Bourke & Hernandez, 2009).

In an attempt to objectively resolve the uncertainty of using either criminal records or self-report alone, a number of proponents advocate the use of polygraphy (Ahlymeyer et al., 2000; Wilcox et al., 2005). Grubin (2006) found some promising success with the tool at eliciting the disclosure of dual offending within a forensic environment. Only a small number of studies included in the current review involved the use of polygraph sexual history

disclosure examinations but they elicited compelling results. Bourke and Hernandez (2009) reported that less than 2% of polygraph exams yielded a *true negative*, indicating that the significant majority of IIOC users have contact offence histories which they initially deny in self-report.

However, the dual offending rate of 88.8% identified by Bourke and Hernandez (2009) may be considered an outlier when viewed within the context of the broader results. It is difficult to attribute the discrepancy between this result and the lower base level of dual offending found by other studies to the use of the polygraph. Buschman et al. (2010) also incorporated the use of the polygraph to facilitate contact offence disclosure amongst a volunteer treatment sample of IIOC users and did not find any dual offences. The use of polygraphy can be considered to be an area of promising research which may provide considerable assistance in the context of identifying the true incidence of offending behaviour. However, further research is required to offer insight into its clinical utility as a tool to facilitate self-disclosure of contact offences across forensic contexts.

Sequence of dual offending

The dual offending rates identified by the current review illustrate there is overlap between IIOC user and contact sexual offender populations. This has significant implications for the assessment and management of IIOC offenders as criminal justice agencies and therapists need to consider how an offender's engagement in one offence type may impact upon their engagement in the other. With regard to Quayle et al.'s (2000) third hypothesis of the relationship between the two offender populations, IIOC use may decrease or increase an online offender's risk of committing a contact offence by, respectively, either fulfilling an urge to contact offend or by reinforcing that desire (CEOP, 2012; Sullivan & Beech, 2004).

The retrospective data studies included in the current review did not specify whether the participants' contact offence(s) preceded their IIOC use or whether the dual offenders' began their sexual criminal careers by using IIOC and then progressing to committing a contact offence. Offline offences which are preceded by online offences may be indicative of that the offender has an equal interest in perpetrating each offence type and the nature of the offence which they commit is chiefly decided by opportunity, such as how readily accessible a potential contact victim is at that time. That is, where contact offenders are unable to contact offend they may turn to IIOC. Alternatively, if a dual offender first offended offline they may subsequently actively choose to engage in IIOC to manage future urges to contact offend. However, cases in which dual offenders first use IIOC and then later embarked upon a contact sexual offending career, are consistent with Sullivan and Beech's (2004) Escalation Theory. In these instances exposure to indecent sexualised material depicting minors may become increasingly normalised and an urge develops to contact offend. Consequently, it is suggested that online offenders lacking behavioural impulse control may then engage in contact offending in a conducive context.

The recidivism studies included in the current review, in part, give limited insight into the prevalence of escalation from online to offline sexual offending. Only six studies reported recidivism data and the results were mixed. After follow up periods of approximately six years, Eke et al. (2011) found contact sexual offence recidivism rates of 6.0% ($n = 12$), whilst Endrass et al. (2009) found only 0.8% ($n = 2$) of their sample perpetrated a later contact offence. However, neither of these studies can be considered to be truly illustrative of escalating deviant intent to perpetrate a contact offence as the participants who were found to commit a later contact offence in the follow-up period already had prior dual offence histories. Three studies found no later contact offences amongst IIOC user samples. Only one

study (Barnett et al., 2010) reported that after 24 months, 1.4% ($n = 7$) of their sample perpetrated a further sexual offence, although it is unclear whether this represented a contact or non-contact sexual misdemeanour.

Escalation Theory (Sullivan & Beech, 2004) has a strong theoretical grounding. However, due to a lack of clarity regarding the sequence of dual offending in both the retrospective and recidivism studies included in the current review, there is a lost opportunity to find empirical evidence in support of this concept. Further research specifying the chronology of dual offenders' criminal careers would offer greater insight into the escalating effect of IIOC upon contact offending risk or whether it may be used as a tool to manage an urge to commit a contact offence.

The next stage for risk management is to determine which factors contribute to, or characterise, dual offending pathways. The current review excluded samples of online sexual solicitation offenders, that is, individuals who deliberately use the Internet to identify or groom a child victim for the purpose of a contact offence. Instead, it focused on IIOC users and the results are indicative that there may be shared risk factors associated with online IIOC use and contact sexual offending.

Niveau's (2010) study found no incidence of dual offending amongst its online offender sample. However, analysis of the sample's psychometric measures (including the Millon Clinical Multi-axial Inventory III; Millon, Davis, & Millon, 1997), indicated that online offenders with higher Cluster B-type personality profiles were more prone to engaging in high risk behaviours, potentially indicative of contact offending, such as undertaking visits to areas associated with sex tourism, and frequent moves of address without apparent purpose.

Whilst it is not in the scope of the current review to speculate about the personality

characteristics of dual offenders, this paper recommends that further research be undertaken to measure the presence of impulsive behavioural traits amongst dual offenders in order to compare to levels of impulsivity amongst those who limit their sexual offending to online IIOC use.

Comparison to Seto et al. (2011)

The 13.5% median rate of dual offending found by the current review is largely consistent with the findings of Seto et al. (2011) who conducted a similar meta-analysis on the topic. Seto et al. (2011) found an overall dual offending rate of 17.3% (n = 812). Also consistent with Seto et al.'s (2011) results, the current review found higher reports of dual offending elicited by offender self-report (current review: 45.8%, n = 215; Seto et al.: 55.1%, n = 288) than by official criminal record data (current review: 10.0%, n = 730; Seto et al.: 12.2%, n = 544). Part of the commonality between the findings of this review and the meta-analysis of Seto et al. (2011) may be attributable to the fact that ten of the 23 studies included in the current review were used by Seto and colleagues.

The slightly lower dual offending rate reported by this paper may be accountable for by the over-representation of papers deriving recidivism data from official sources and criminal databases, rather than the self-report of treatment populations. The current review excluded poster presentations and conference papers which Seto et al. (2011) incorporated into their review (e.g. Coward, Gabriel, Schuler, & Prentky, 2009; Wood, Seto, Flynn, Wilson-Cotton, & Dedmon, 2009). These predominantly found higher rates of dual offending. Conversely, the current review included more data derived from official records, including technical reports (e.g. FBI, 2002) which yielded lower dual offending rates. The comparison between the identified offending rates according to the source of information has important

implications for those undertaking risk assessments of IIOC users to be aware that there may be hidden contact offences not recorded by official criminal records.

Limitations

The current review included broader samples of child abuse images possessors rather than those who exclusively possessed IIOC online. This was decided due to the limited resource of studies which exclusively focus upon Internet offenders. It is noted that each of the samples of offenders committed their Index offences after 2000 and so the images were likely to have been handled online as the Internet provides the largest forum and exchange of such images (Middleton, 2009). Nonetheless, the findings of the current review may be less generalizable to the wider population of Internet-based offenders. To reduce concern regarding the substitution of samples of online IIOC users for offline IIOC users, it would be insightful to examine the characteristic and psychological differences between these two groups. It is expected that there is little conceptual difference between Internet IIOC and offline IIOC offenders as the ultimate nature of the offence is similar and the only difference is the medium of offending.

It should also be noted that the current review selected a disproportionate number of studies which identified dual offending from official conviction sources. Future research would be beneficial to compare these data to an equal participant sample size from offender self-disclosure data. Additionally, further examination of the efficacy of polygraphy in facilitating unknown dual offending disclosure would be of provide important insight.

Finally, it should be noted that the current review may suffer from the largely low level of quality of studies included in the current review. Many of the studies yielded quality assessment scores only slightly higher than the 50% cut-off or fell on the threshold itself. Poor quality scores were typically the result of the studies having not primarily focused on identifying dual offending rates, or which failed to provide theoretically-grounded rationales for the rates they found, in addition to many having relied upon only one source of dual offending information. Future research in this field would benefit in from addressing these concerns.

CONCLUSIONS

This review found varying proportions of IIOC users perpetrate contact sexual offences. However, it remains unclear which factors contribute to the shared risk of engaging in IIOC use and contact sexual offending, and which risk factors are unique to either respective offence type. The studies included in the current review failed to make clear the order in which IIOC use and contact offences occurred. As such, they leave unanswered the question as to whether IIOC use represents a precipitating risk factor for later committing a contact offence, or whether IIOC use simply represents an 'add-on' to a broad pattern of (contact) sexual offending behaviour. Although knowledge of dual offending rates is helpful for clinicians and risk management agencies to increase their awareness of the statistical risk of online-to-offline offending cross-over, these data only offer restricted utility unless they are accompanied by detailed contextual information regarding the nature of respective online, offline and dual offending risk factors.

In light of the findings presented in this chapter that a significant proportion of IIOC users do not perpetrate dual offences, it is important to elucidate what factors prompt them to begin offending online in the first instance, and what factors protect them from committing a contact offence. Once the *criminogenic needs* (Andrews, Bonta, & Holsinger, 2010) of online IIOC-only users have been identified, they can be used for comparison with models of contact sexual offending risk. The identification of discrete online sexual risk factors can ultimately be used as a platform to appropriately inform and tailor offender assessment, treatment and supervision packages which may address online-to-offline cross-over.

Chapter 3, therefore, presents an exploratory qualitative investigation into factors which characterise the offending patterns of IIOC-only offenders, including protective factors which prevent them from crossing over to perpetrate contact sexual offences. Within the overall aims of this thesis to better understand how to assess and treat the risks posed by online IIOC users, Chapter 3 aims to provide a clearer understanding of the aetiological factors associated with IIOC-only use.

CHAPTER THREE

Online HOC offenders: A Qualitative Review of Accounts Regarding Offence pathways and the Offending Process

ABSTRACT

Aim

The systematic literature review presented in Chapter 2, highlighted that a significant number of online IIOC users also perpetrate contact sexual offences. However, a large proportion of IIOC users will only ever commit a sexual offence via the Internet. Due to the significant difference between the nature of these offending pathways, it may, therefore, not be appropriate to use models of contact sexual offending to inform the assessment and treatment of all IIOC users. This chapter aims to identify risk factors which precipitate IIOC-only offending, and factors which protect IIOC-only offenders from recidivating or perpetrating a contact sexual offence.

Method

A thematic analysis was performed upon the accounts of 10 online IIOC-only offenders regarding factors relating to their IIOC use at the outset of their offending, during the maintenance phase and with regard to relapse prevention.

Results

The bottom-up atheoretical qualitative analysis of data resulted in the extraction of motivational themes conceptually consistent with known risk factors of contact sexual offending, namely: (i) emotion dysregulation; (ii) unmet intimacy needs; (iii) deviant sexual interest, and; (iv) pro-offending cognitive distortions. Each was characterised by the role of general problematic Internet use. The role of some of these factors related to the method via which images were accessed. An over-arching thematic framework of the cycle of IIOC

offending was constructed, which indicated the role of IIOC use as a tool to manage emotional dysphoria.

Conclusions

Applying models of contact sexual offending to the assessment and management of IIOC-only offenders is appropriate due to the presence of common risk factors in offending pathways. In light of the primary role of IIOC use as a maladaptive tool for emotion regulation, identified by this study, Chapter 4 was used to review a psychometric tool to measure poor emotion control amongst IIOC offenders.

INTRODUCTION

Individuals who access indecent images of children (IIOC) online pose a significant problem for society due the psychological harm they cause victims by viewing images; the high prevalence rates of IIOC use (including, very high estimated rates of hidden offending); and due to the multifaceted role of IIOC use in facilitating further contact sexual offences, for example, by fuelling a market to produce more images (Child Exploitation and Online Protection Centre [CEOP], 2012; Durkin, 1997; Elliott & Beech, 2009; Lam, Mitchell, & Seto, 2010; Mitchell, Finkelhor, Jones, & Wolak, 2010; Quayle & Jones, 2011; Seto, Wood, Babchishin, & Flynn, 2012; Sullivan & Beech, 2004; Webb, Craissati, & Keen, 2007). Research findings relating to these aspects of online IIOC offending are discussed in Chapters 1 and 2. However, a key area of interest remains for further investigation which would offer important insight for the development of effective IIOC offender management and policing strategies, namely identifying aetiological reasons for online IIOC access (CEOP, 2012; Osborn, Elliott, Middleton, & Beech, 2010; Sheldon, 2011; Tomak, Weschler, Ghahramanlou-Holloway, Virden, & Nademin, 2009). Further investigative effort needs to be applied into this field in order to understand the reasons for perpetrating an online IIOC offence. Once this has been achieved, action can be taken to ensure that IIOC offender assessment, treatment and management plans are appropriately tailored according to the nature of the risk they pose.

The applicability of contact sexual offending theory

The assessment and treatment of online IIOC offenders has typically followed established risk models of the criminogenic needs of contact sexual offenders (Osborn et al., 2010).

Theoretical frameworks of contact offending developed, for example, by Finkelhor (1984),

Hall and Hirschman (1991), Marshall and Barbaree (1990), and Beech and Ward (2007) propose that an individual will perpetrate a contact sexual offence as a result of the interaction of distal predisposing traits and proximal acute psychological states. These are activated by contextual cues when the offender enters a facilitating environment.

Meta-analyses of offender and offence data have been used to identify factors which predict contact sexual offending. Thornton (2002) conducted a logistic regression analysis of offender psychometric data and extracted a number of trait-based *stable dynamic* factors which contribute to offending risk. Craig, Browne and Beech (2008) categorised these as: *deviant sexual interest; pro-offending cognitive distortions; socio-affective deficits; and impulse/emotional dysregulation*. Further analyses have identified a number of *static* risk markers which represent the expression of risk-related traits, such young age at the time of first offence and offending against male victims (Beech & Ward, 2007; Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2009).

Two pathway models of child abuse integrated the role of dynamic and static factors into distal-proximal risk frameworks, authored by Beech and Ward (2007), and Ward and Siegert (2002). The latter postulated that child abusers perpetrate their offending via difficulties in one of four lifestyle domains, reflective of the risk traits categorised by Craig et al. (2008): (i) intimacy and social problems; (ii) deviant sexual arousal; (iii) emotional disturbances, and; (iv) cognitive distortions. Ward and Siegert (2002) proposed a fifth *pure* offending path via which an individual perpetrates an offence following interacting difficulties across all four domains. An example provided by Marshall and Barbaree (1990) illustrates one such instance whereby an offender who has suffered a disturbed childhood (characterised by physical, sexual or emotional abuse) subsequently experiences difficulties acquiring skills to maintain normative and satisfying interpersonal relationships. These difficulties are compounded in

adolescence, at which point the offender struggles to adaptively regulate emotional frustration, and they simultaneously acquire maladaptive sexual scripts. Sexual assault occurs as a result of the underlying confusion between sexual and aggressive behavioural scripts, when the offender is placed in an offence-conducive environment.

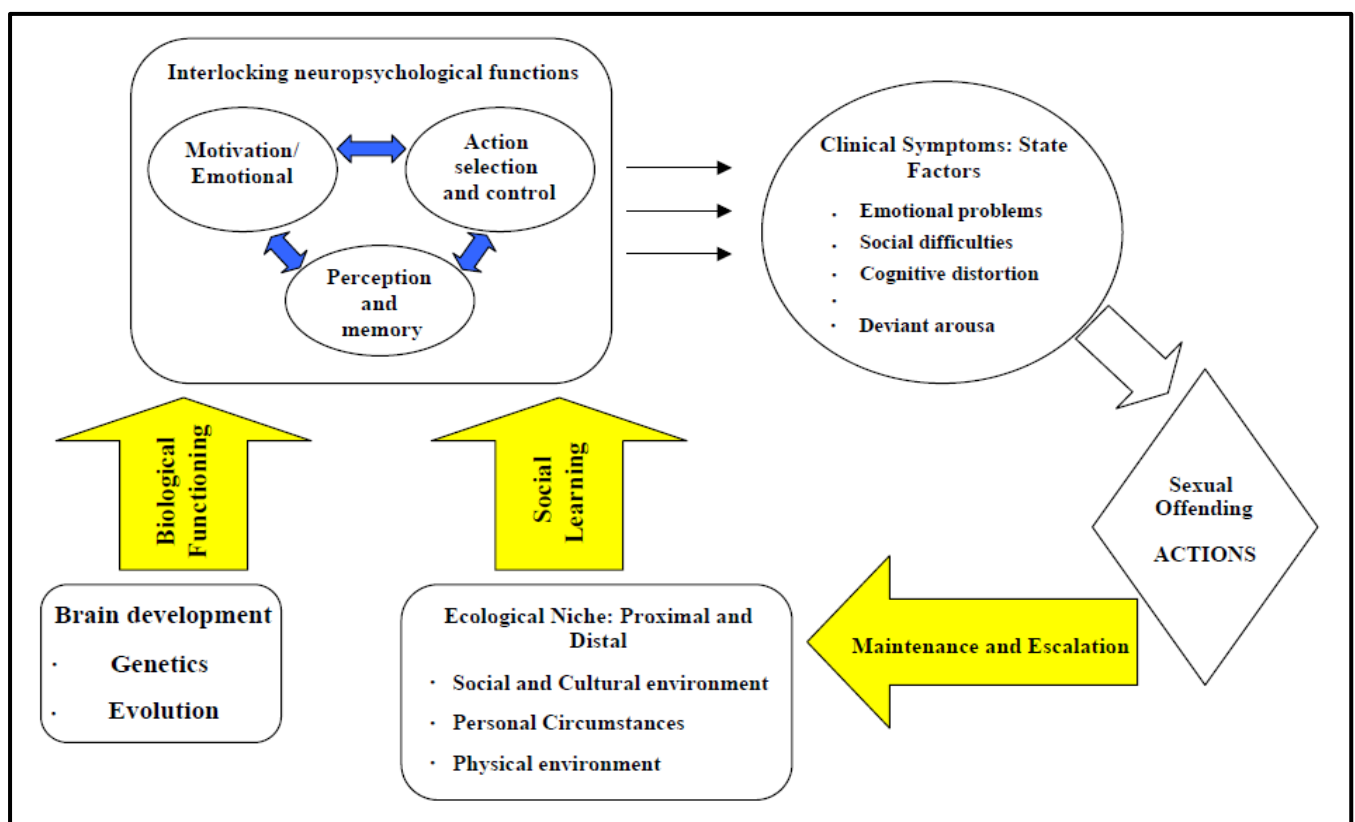
Middleton, Elliott, Mandeville-Norden and Beech (2006) investigated the applicability of Ward and Seigert's (2002) Pathways Model to the offending routes of a sample of IIOC users. The authors used psychometric data to identify deficits associated with each of the four offending paths (deviant sexual interest, unmet intimacy needs, pro-offending beliefs and emotional dysregulation) amongst their IIOC user sample. The results indicated that 44% ($n = 32$) of the sample discretely fitted one of Ward and Seigert's (2002) routes to offending, that is, they displayed a significant deficit in only one of the four risk domains. Only one participant (2%) had elevated scores across all four factors, suggesting an interacting, or *pure*, offending pathway to IIOC use. These results hold important implications for the fit of the models of contact sexual offending to IIOC use.

Middleton et al.'s (2006) findings indicated that IIOC users share deficits in each of the four dynamic risk domains identified by Thornton (2002) and Craig et al. (2008), predictive of contact sexual offending. Just as contact sexual offenders have been found to arrive at their offending behaviour via a singular deficient path, nearly half of Middleton et al.'s (2006) sample exhibited the same. However, approximately 15% ($n = 10$) of the overall sample did not fit one clear route to offending, despite their psychometric results suggesting deficits in one or more of the risk domains. This may indicate that the five pathways do not sufficiently discriminate reasons for online IIOC offending. Further, 40% ($n = 29$) of the sample did not report elevated scores in any of the measures. These results suggest there are likely to be

other risk factors which are unique to online IIOC use, which may not have been identified from meta-analyses of contact sexual offender and contact offence characteristics.

Elliott and Beech (2009) conducted a theoretical review of how IIOC use can be accounted for by the four dynamic risk factors of contact sexual offending, as outlined in Ward and Beech's (2006) Integrated Theory of Sexual Offending (ITSO; see Figure 2). The model conceptualises how dynamic risk factors continuously interact with biological, ecological and neuropsychological influences to impact upon an offender's risk of perpetrating a contact sexual offence. Elliott and Beech's (2009) findings, and the results of other comparisons between online and offline sexual offenders, have elicited mixed results regarding the degree of overlap of risk factors between online and offline sexual offender groups.

Figure 2. The Integrated Theory of Sexual Offending (ITSO), taken from Ward and Beech (2006).



Intimacy deficits and social problems

Elliott and Beech (2009) speculated that intimacy deficits and social problems may be prevalent amongst IIOC users as the Internet provides them with a less threatening environment for them to try and fulfil their unmet interpersonal needs. Due to a fear of potential rejection and the negative consequences of attempting to forge relationships face to face, IIOC users may retreat online to achieve sexual satisfaction and pseudo-intimacy with the depicted victim (Sheldon, 2011). IIOC users may be deterred from engaging in contact sexual behaviour, instead seeking affection and intimacy in a 'controlled' online environment (Kafka, 2010). This is consistent with the IIOC offender profile found by Babchishin, Hanson and Hermann (2011) whereby online offenders were more likely to be single.

Middleton et al. (2006) found that unmet intimacy needs represented the most common singular deficit and offence pathway amongst their sample of IIOC users, accounting for 35% ($n = 15$) of their overall sample. Similarly, Seto, Reeves and Jung (2010) who reported that half of their sample of 50 IIOC users was deemed to have social difficulties with adults and access online forums as a proxy for adaptive offline relationships. In a qualitative review of the accounts of 13 convicted IIOC users about their offending behaviour, Quayle and Taylor (2002) reported that participants described being more motivated to handle IIOC as it allowed them a form of reinforcing interaction with the provider, than the sexual arousal they experienced from the images. The offenders cited that they enjoyed the status they received from other users by trading highly sought after material. However, this explanation does not account for why those with deficits in the ability to form adaptive offline relationships would choose to access indecent material depicting minors rather than legal age subjects.

Emotional dysregulation

Middleton et al. (2006) found that the second most common singular pathway to IIOC use by online offenders was via deficits in the adaptive regulation of emotions, accounting for 33% (n = 14) of their sample. Elliott and Beech (2009) posited that IIOC users may be involved in broader patterns of problematic Internet use as a form of coping mechanism for offline stress. The authors proposed that online offenders may seek to alleviate and replace emotional dysphoria by engaging in sexually satisfying online practices, including the use of IIOC as a masturbatory tool. Quayle and Taylor (2002) reported that online IIOC offenders cited that a motivating factor to access material online was to escape offline stressors, such as isolation and work related stress. However, there is a lack of demographic data to support this. Tomak et al. (2009) found that IIOC users attained significantly lower scores on subscales of impulsive behaviour as measured by the Personality Assessment Inventory (PAI; Morey, 1991) than contact sexual offenders. Further, analysis of IIOC user demographic characteristics has indicated that they are more often able to sustain employment than their offline offender counterparts (Laulik, Allam, & Sherridan, 2007).

Cognitive distortions

Only 2% (n = 1) of Middleton et al.'s (2006) IIOC sample followed fitted the offending pathway of anti-social thinking patterns. Elliott and Beech (2009) suggested that sexual offenders broadly hold maladaptive beliefs regarding the appropriateness of children engaging in sexual activity. When applying this theory to IIOC users, they postulated that online offenders may first access material by minimising the degree of perceived harm to the victim. Quayle and Taylor (2003) proposed that the offenders may subsequently adopt

attitudes which justify children as sexual being due to repeated exposure and conditioning to images depicting minors seemingly willingly engaging in sexual activity.

Ward and Keenan (1999) identified five deep level cognitive schema, or implicit *latent theories* (Ward, 2000), which contact sexual offenders use when encoding information about the world and their behaviour. These comprised: *children as sexual beings* who are willing complicit who are able to consent; the offenders' sense of *entitlement* to engage any other in a sexual practice; a tendency to behave in an avoidant manner or engage in proactive assaults due to a belief the *world is dangerous*; a belief that all others are *uncontrollable* and actions are often beyond the individual's control; and a tendency to diminish the perceived *nature of harm* of sexual enterprise upon the victim. However, when applying these concepts to a sample of IIOC users, Howitt and Sheldon (2007) found only two maladaptive schemas to be present, representing the children as sexual beings and justifying attitudes for offending. In their meta-analysis of personality-based differences between IIOC users and contact sexual offenders, Babchishin et al. (2011) found, after fixed-effect analyses, that online offenders displayed significantly fewer cognitive distortions than contact offenders.

Deviant sexual scripts

There is a strong theoretic basis for IIOC users having a deviant sexual interest in minors. This is grounded in their decision to access material which depicts minors despite the available opportunity to view images depicting an almost inexhaustible range of other sexual activity (Lanning, 2001). Elliott and Beech (2009) stated that deviant sexual fantasies amongst online IIOC users are likely the result of difficulties regulating mood and self-control in the context of sexual preoccupation. Evidence for the predictive effect of deviant interest upon IIOC use is provided by Quayle and Taylor (2002). The authors reported that

many IIOC offenders whom they interviewed, cited that they experienced a reinforced deviant interest due to the conditioning effect of using IIOC as a masturbatory tool. Similarly, when analysing the accounts of 16 IIOC-only offenders, Sheldon and Howitt (2008) found that the participants most often attributed their offending to deviant arousal.

However, despite these findings, only a small percentage of Middleton et al.'s (2006) sample could be fitted to the deviant interest pathway (2%, $n = 1$). This may, in part, be an artefact of attempting to measure deviant interest accurately with psychometric tools alone. When the penile plethysmograph (PPG) was used instead to gauge deviant arousal, Seto, Cantor and Blanchard (2006) found IIOC users were three time more likely to display paedophilic interest than contact sexual offenders.

The observed inconsistency in the results of studies investigating risk factors of IIOC users may be attributable to the heterogeneity of the IIOC user population as a whole. Elliott and Beech (2009) constructed a typology, consistent with the models of Lanning (2001) and Krone (2004), of the offending practices of IIOC based on the results of their criminological review. The authors categorised IIOC offending patterns into four types:

- *Periodically prurient offenders* – indiscriminately access IIOC within a broader pattern of diverse pornography interest, without a selective deviant interest in children.
- *Fantasy-only offenders* – have a deviant interest in children but limit their actions to the Internet and fantasy without contact sexual offending.
- *Direct victimisation offenders* – access the material within a broader pattern of sexual offending, possibly with the aim of grooming a child victim for a contact sexual offence.

- *Commercial exploitation offenders* – primarily trade or distribute material for financial profit.

As the typology illustrates, there is considerable diversity in the reasons which motivate IIOC access. Offender types vary in the nature of their conceptual relationship to contact sexual offending, from those who display no apparent interest in perpetrating a contact offence to IIOC users who incorporate indecent material in their plans to contact offend. For instance, Elliott and Beech's (2009) *periodically-prurient offenders* may have no interest at all in perpetrating a contact sexual offence but still find sexual gratification in the use of online IIOC. Conversely, Krone (2004) identified a group of IIOC users which would fall into Elliott and Beech's (2009) *direct victimisation* type, who accessed IIOC to provide themselves with a blueprint to directly plan a contact sexual offence. Alternative viewpoints, such as Sullivan and Beech's (2004) Escalation Theory, suggest there may be an indirect relationship between using IIOC online and the risk of perpetrating a contact sexual offence. The theory proposes that IIOC offenders may habituate to IIOC content and so seek progressively more severe images, while incidentally developing fantasies of perpetrating a contact offence.

The heterogeneity of IIOC offender types suggests that attempting to assess and treat each within an universal framework, derived primarily from models of contact sexual offending, is likely to be inappropriate and, at worst, ineffectual. Therefore, further work is needed to examine the sexual offending pathways of IIOC-only offenders. This would allow for the construction of an aetiological model of IIOC use to identify unique online offence risk factors and others which conceptually overlap with contact offending theory.

Aims

This study (Study 1) aimed to explore factors which contribute to the risk of IIOC users first accessing the material, and perpetuating factors which sustain their offending behaviour. It did so by applying an unbiased bottom-up thematic analytic method of offenders' accounts regarding their reasons to initiate, and maintain, their IIOC offending careers.

METHOD

Analytic Approach

Study 1 adopted a qualitative approach to data collection and analysis. This was in order to generate sufficiently rich and nuanced textual data to identify novel and idiosyncratic factors related to IIOC use, which may have been overlooked by using a purely empirical methodology. Due to the challenges faced by qualitative approaches to be seen to adhere to objective and reliable practice, it is necessary to make explicit the rationale which underpinned method selection (Guest & MacQueen, 2008; Guest, MacQueen, & Namey, 2012; Morse, Barrett, Mayan, Olson, & Spiers, 2002). A full description of the decision-making process is presented in Appendix I.

Participants

Participants were recruited from a therapeutic group programme aiming to offer support, advice and information for those who have been arrested, cautioned or convicted in connection with IIOC. The programme is designed and delivered by a UK-based Child Protection charity, across sites in Avon and Somerset, the Midlands, the North and South East. It comprises 10 weekly sessions, each lasting approximately 2.5 hours, offering a 'safe'

environment for those who have been arrested for child pornography related offences to explore their behaviour and seek practical advice in order to avoid re-offending. Groups typically consist of six to eight men, with up to three specialist psychologists from the organisation acting as facilitators.

Group facilitators invited offenders enrolled on the programme to take part in this study, and so participants were recruited via opportunity sampling. Inclusion criteria included that individuals had been arrested, cautioned or convicted for having perpetrated an offence relating to the access of IIOC but who had no convictions relating to perpetrating any contact sexual offence. A pre-requisite for participation in the programme and the current study included not denying culpability for the respective IIOC offence(s).

The total sample size selected was restricted to 10 participants due to time and resource limitations preventing exhaustive analysis of a larger sample size. It was considered beneficial to use a sample comprising offenders involved in (group) therapy as they were likely to be amenable to sharing their experiences. The work they had already undertaken also would have included practising some degree of self-reflection upon factors relating to their offending.

Of the ten participants recruited, all were male and aged between 24 and 68 (mean age = 46.5) at the time of the current study. Nine were of White British ethnicity and the other was of White Eastern European. All were of the same relationship status at the time of their offending to the time of their participation in the current study. Six participants had children at the time of their offending, of which three had adult-age children, two had teenage-children (under 18 years; of which one of these offenders had a child aged under 12 years at the outset of their offending), and the other had a child(ren) aged under two years. The duration

between the time of the participants' most recent offence, and their involvement in the current study, ranged from three years to eight months. Offences included possession, downloading, making (that is, creating a store of) and distributing IIOC. One participant was classified as a 're-offender', having again been arrested for offences relating to IIOC since his original conviction.

Data collection

Data were collected via engaging participants in individual semi-structured interviews regarding their IIOC offending. The interviews were conducted by the current author and a team of Assistant and Trainee Forensic Psychologists across two of the group programme sites. Interviewers were selected on the basis of pre-existing familiarity with the participants. This was thought to be of benefit as the existing therapeutic relationship between the dyad was hoped to enhance the participant's comfort to disclose and share reflections on their offending behaviour. The current author, who was not familiar with participants in advance, spent time building rapport via several telephone conversations and an informal discussion about the process prior to the interview.

The current author devised the Interview Schedule (see Appendix J) in collaboration with the specialists in sexual offender risk assessment at the charity organisation via which participants were recruited and the Internet Watch Foundation, a UK-based charity which works in partnership with police, government and Internet service providers to minimise the availability of IIOC. The schedule followed a timeline structure, asking participants about precipitating factors which they considered relevant to their first offence, factors which contributed to their first access, their method(s) of access, perpetuating factors of the maintenance period of offending and factors associated with the cessation of their offending.

Consistent with the recommendations of Guest et al. (2012), the questions included in the schedule were open-ended, encouraging participants to provide full narratives, without imposing any pre-conceived theoretical concepts which interviewers may have expected to be associated with IIOC use. The flexible schedule design allowed participants to elaborate on elements of their offending history which they felt were particularly relevant, without being curtailed. Interviewers administered prompts at their discretion to explore such channels and/or to clarify any ambiguous or indeterminate answers.

Guest et al. (2012) state that it is advisable when conducting qualitative research projects to perform a pilot study in order to ensure that the interview schedule elicits the data most appropriate for the desired outcome. However, the current author considered this was unnecessary owing to the inherent exploratory purpose of the investigation. The phrasing of some questions was refined after the first interview, to make them more open. Additional prompts were inserted to gain a greater depth of qualitative information, rather than closed yes/no responses. The duration of interviews was between 30 minutes and two hours. Data was recorded to digital audio file and fully transcribed for analysis by the research team.

Ethical considerations

Ethical approval for the study was granted by respective ethics committees of the charitable organisation via which participants were recruited and the University of Birmingham.

Participants were provided with an Information Sheet and asked to sign a Consent Form, making them aware of their rights to withdraw from the study; that their participation would have no impact upon their therapeutic status within the charitable organisation; and that their participation would have no bearing on any criminal justice proceedings unless, if during the course of their participation, any information relating to a previously unknown offence

perpetrated by themselves or another was disclosed in which case the researcher would be under obligation by law to disclose that information. The benefits to participants of their prospective involvement in the study were highlighted to them, including the gains to therapeutic insight into their offending behaviour and potential protective factors to help them abstain from future access.

Interview transcriptions were assigned an alpha-numerical code which was used to refer to participants' respective data. Consent forms and basic demographic information (including sex, ethnicity, age, any offences committed) were kept securely on site separate from the interview data. Interviewers ensured at the time of data collection that no reference would be made to identifying features of the participant (other than their current age), their victims or the geographical location of their offending and so this information did not appear in transcripts. The audio recordings, transcriptions and coded data were stored as encrypted files only accessible on site by the primary investigators.

Data Treatment

The present study followed the comprehensive six-step procedure of TA as described in full by Braun and Clarke (2006). Consistent with the principles of the process, the stages were conducted in a recursive rather than unidirectional manner, that is, coders returned to repeat earlier stages and revise generated themes rather than retain the initial themes as the final product of the analysis. A step-by-step explanation of the data treatment process is presented in Appendix I.

Intercoder reliability

The process of checking intercoder reliability followed the method proposed by Kurasaki (2000). The first stage involved the current author and a PhD researcher, who was also involved in the liaison with the charity organisation via which participants were recruited, individually reading the transcriptions and identifying potential themes which were then developed into the formal codebook.

In the second stage of reliability checking, an academic peer of the current author used a sample of the transcribed text to identify the presence of proposed themes listed in the codebook. An *agreement matrix* was developed to check how consistently the author and peer had assigned codes to randomly selected portions of text from five of the transcribed interviews. A score of 1 was recorded in the agreement matrix to indicate that both coders had applied the same code to the randomly selected line; a score of 0 was allocated in instances where there was no agreement between the coders for the application of a code to the randomly selected line.

As Kuraski (2000) advocated, intercoder agreement was calculated using a ratio of agreements to disagreement for each provisional theme; overall agreement was calculated by averaging the agreements obtained for each theme. An interrater reliability analysis using the Kappa statistic was performed to determine consistency among raters. The Kappa statistic was found to be $Kappa = 0.82$, which is described by Landis and Koch (1977) as representing *substantial agreement*.

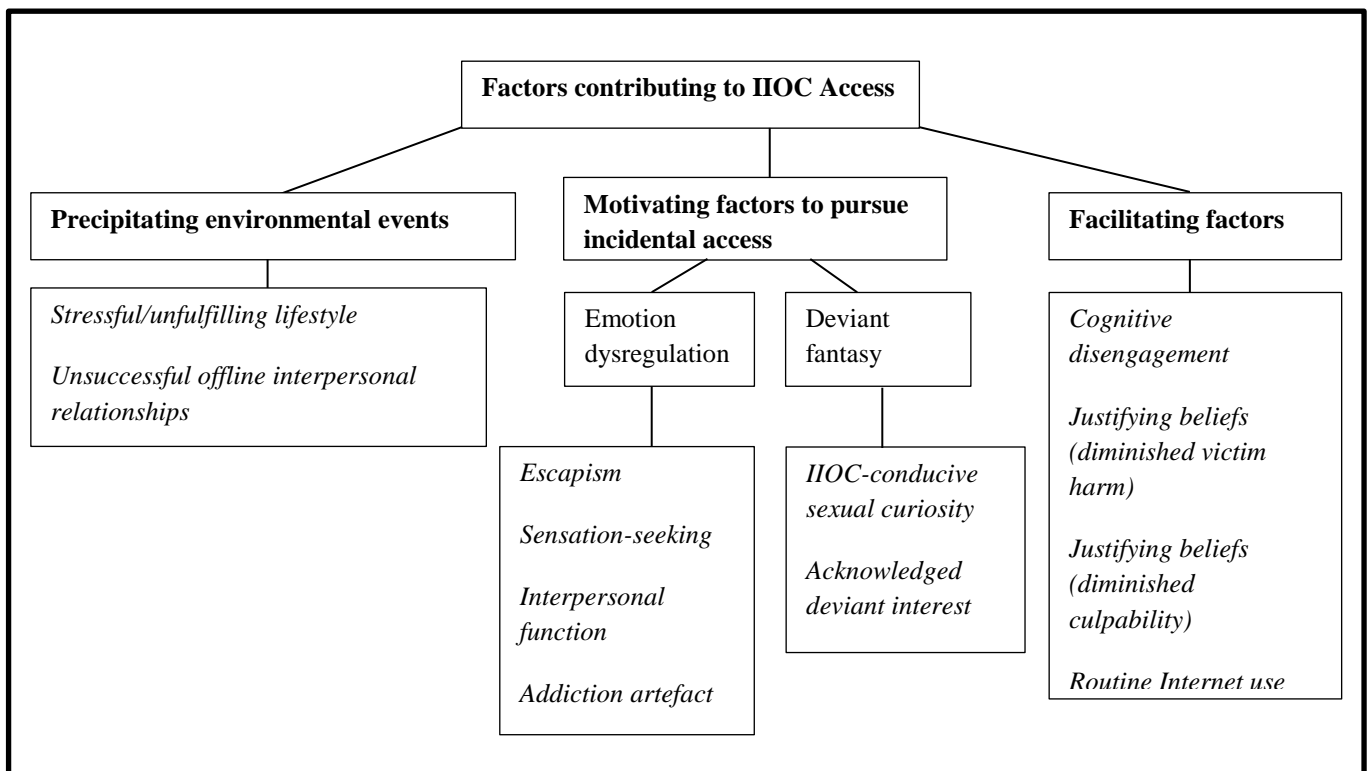
RESULTS

Data analysis identified three broad themes within participants' accounts about their IIOC use. These were categorised as: *Factors Contributing to IIOC Access*, *Protective Factors Against IIOC Access* and the *Process of Offending*. The current section examines the first two of these themes and the conceptually-related sub-themes extracted from the data. All extracted data regarding the Process of offending, for instance, information regarding the technical methods used to retrieve images, are presented in Appendix K, along with a rationale of the importance of examining this information and the implications for risk management agencies.

For the sake of brevity, only a few illustrative data items are presented here to give a contextual impression of the extracted themes. A more comprehensive, although not exhaustive, list of quotations for respective themes is presented in Appendix L.

Factors Contributing To IIOC Access

Figure 3 presents the thematic hierarchy of factors derived from the data which related to participants' reasons for offending. References made to this broad theme were organised into three sub-themes of Precipitating Environmental Events, Motivating Factors and Facilitating Factors. Each sub-theme was further delineated to incorporate conceptually distinct subordinate items.

Figure 3. Thematic hierarchy of Factors Contributing to IIOC Access

Precipitating environmental events

Many participants began ($n = 8$) by describing their life circumstances which they felt actuated the outset of their offending and which they considered were relevant to fuelling the maintenance period. These factors comprised proximal acute reactions to negative events and distal chronic lifestyle complaints. Typically participants referred to themselves as having a passive role in these situations. Precipitating environmental factors were categorised into sub-themes of *stressful/unfulfilling lifestyle* and *unsuccessful offline interpersonal relationships*.

Precipitating: Stressful-unfulfilling lifestyle

Many participants ($n = 7$) referred to experiencing dysphoric events or generally feeling unfulfilled in their lives at the outset and during the maintenance of their offending:

"I started looking [at IIOC] after I separated from my wife...my son went off to university and said that he was gay...you worry about them ... We discovered my daughter of 15 was seeing a much older man, more than twice her age and...she left home and went to live with him... It was...just shell-shock really ...I also set up my business...I threw myself into my business to the exclusion of everything else. [I] didn't take holidays. You know, worked all hours...without being home"-
Participant 08

"I had nothing else going on in my life at that time. If there was nothing on TV, if there was nothing for me to do I would go on the Internet and spend two or three hours quite easily accessing um both adult pornography and indecent images" –
Participant 04

Precipitating: Unsuccessful offline interpersonal relationships

A second sub-theme common across participants' accounts of their lives at the outset of, and during, their offending regarded their experience of unsuccessful intimate or social relationships. The same number of participants (n = 7) referred to acute feelings of isolation and/or the collapse of long term relationships precipitating their offending:

"It's at the stage when my marriage went sour. My wife at the time was suffering depression...I had affairs and, um, it brought about the downfall of my marriage... It progressed [IIOC access] when I separated from my wife...My poor wife said she wanted to leave and I said, you know, 'You stay,' and I left the marital home...I don't think I ever got over, uh, losing my wife" – Participant 06

"[I] had a very, very much an awkwardness towards females at school that I was maybe reliving...My relationship ended...I had a nothing else going on in my life at that time. I had alienated all my friends, I had split from my ex and it was a void in my life that I wanted filled." – Participant 04

"Mine and my wife's sex life was rubbish at particular times" – Participant 01

Motivating factors

All participants denied intentionally seeking IIOC at their first offence, stating that they were introduced to indecent material incidentally or in a passive role. The current section presents factors which participants described as being relevant to pursuing IIOC content after their first incidental access and the reasons which motivated them to return to indecent material during their offending careers. Data regarding motivation to access were categorised into sub-themes of *emotion dysregulation* and *deviant fantasy*.

Common cognitive and affective themes in offenders' accounts indicated that IIOC use satisfied an unmet personal need or represented a maladaptive form of emotion regulation. Participants explained they engaged in IIOC use in order to address a negative or lacking emotional state. Sub-themes derived from these references included: *escapism*, *sensation-seeking*, *interpersonal need* and *addiction artefact*.

Emotion dysregulation: Escapism

Many participants (n = 6) described a direct relationship between proximal or distal negative events at the outset of their offending and their later decision to re-access material. Some explicitly spoke about a causal chain between the negative events they suffered, their subsequent experience of low mood/heightened stress and their decision to access IIOC to alleviate their negative feelings:

"I'd look at [indecent] images. It was like a distraction. It took me away to a, took me to an unreal world, as I saw it then, as opposed to this real world that I couldn't cope with." – Participant 08

"The times that I would look, look at [indecent] images were times that I was very low and that was when the craving would come on and that's why I think it was

associated with the depression...[The indecent images were] taking away the pain, huge distraction from what was going on in my life at the time.” –

Participant 10

“That was my cut-off from reality...a sort of removal... so you could argue the stresses were needing me to cut-off from reality...pure escapism” – Participant 02

Emotion dysregulation: Sensation-seeking

An even more prevalent sub-theme throughout participants' (n = 9) accounts was that they were motivated to access IIOC by a self-perceived need to seek excitement or cure boredom. Data items incorporated into this sub-theme included references to IIOC use providing participants a thrill associated with breaking moral boundaries. They described reinforcing reactions of excitement to the material, which motivated further offending:

“I felt I was taking a massive risk and stepping over a line and this risk gave me this chemical thrill. When I saw abusive images, [it] gave me this...sense of risk and danger forbidden...and it being illegal and the thrill it was um conducive to the excitement of masturbating.” – Participant 09

“The fact that I knew it was wrong...made it a bit more exciting and the fact that it was something new...which again added to the excitement.” – Participant 04

“Online the feelings would have been excitement...a feeling of it being, uh, for want of a much stronger word and a much more appropriate word, but naughty and, and taboo, um, and I think that probably drove a lot of it as well.” –

Participant 06

Emotion dysregulation: Interpersonal function

Thematic data regarding the technological methods which participants used to access IIOC are presented in Appendix K, however, one sub-theme of motivational factors was unique to participants (n = 4) who accessed material via file-sharing and Internet Relay Chat (IRC).

These participants described primarily accessing and/or sharing IIOC in order to please other users. Data pertaining to this was, therefore, coded as serving interpersonal function.

References were characterised by statements that participants hoped to sexually gratify the individual they with whom they were sharing material, also that their non-commercial trade in indecent images was an attempt to ingratiate themselves with a fellow user and that IIOC file-sharing typically formed the basis of their only ‘meaningful’ interpersonal relationships:

“I had the power to be able to give them [IIOC images] to somebody else. It made me feel a bit wanted...[I] felt quite good because I was chatting to people. I could find out what they wanted and, you know, be a sort of, I was, I was needed, felt needed ‘cos they needed something off me.” – Participant 05

“[Accessing IIOC was] a way to speak to people who were, um, spending time talking to me online and I think that was a big key thing at the vey start was actually being able to speak to people and to please the and, and tailor my chats to them, to their interests... it was because that was what the other person liked who, who I was speaking to at the time.” – Participant 06

“Desperate was a very strong feeling I had at that age when I just felt desperate to meet people... I think those feelings of, um, attraction to anyone who showed me any sort of attention online...[IIOC] was clearly something that they liked so I needed to show that I liked it in order to connect with them.” – Participant 07

Emotion dysregulation: Addiction artefact

A sub-theme present throughout the majority of participants’ (n = 8) accounts related to a compulsive element to their offending. Participants referred to an addiction metaphor, describing a psychological or physical dependence upon the material. Offenders described their access as a habit with periods of craving which they were unable to resist:

“It became a really severe problem that was controlling me rather than me having any element of control over it whatsoever... and I think uh there may have

been an element of self-destruct in that ...again a feeling that like a drug you always need the bigger hit... so it was that constant um being hooked” –

Participant 06

“When you’ve got new material you, you, you look then you want to see is there anything new there? That’s the constant like craving for something which is anything new... Sometimes, you, you want to look at like, it’s obsession” –

Participant 09

“It was a bit like being an alcoholic... It was like being in quicksand. You were being pulled into it and further down...At the time it was a craving that I couldn’t get out of my head... it [IIOC use] was just something that my mind seemed to be very ripe for getting addicted to this sort of thing and craving it on occasions... it was almost like the addiction took hold” – Participant 08

The second theme cluster of factors which participants described facilitated their access of IIOC related to their sexual preference. Sexual preference sub-themes comprised: *IIOC-conducive sexual curiosity* and *acknowledged deviant interest*.

Deviant interest: IIOC-conducive sexual curiosity

Several participants (n = 6) described having habituated to the legal adult-content pornography. They explained that they initially accessed IIOC incidentally when trying to source novel pornographic material due to their habituation to legal content. Although they stated they were not necessarily seeking illegal content, they were curious about what other material was available. Participants described becoming unexpectedly aroused when they encountered IIOC. They explained their incidental access and concurrent arousal contributed to the development of novel fantasies and an interest in underage subjects they had previously been unaware of, or which they denied had previously existed:

“When I started looking at pornography I was masturbating and...coming across abusive images...I realised that when I saw images that were abusive there was still, there was still an excitement and an arousal that was present” – Participant 07

“I do remember once something illegal did pop up. That created the interest. And then once you got that creation of an interest, an idea, that’s when I looked for it... It became a conscious deliberate [act].” – Participant 02

“I didn’t start of looking for indecent images of children...it just went from adult pornography um and being shown a picture of a teenager, saying, ‘I like it’ and then just progressively got, got worse... I wouldn’t say I had an interest. I didn’t deliberately go and look for child pornography but once I was shown some then I got interested in it.” – Participant 05

Deviant interest: Acknowledged deviant interest

Conversely, a smaller number of participants ($n = 4$) described accessing IIOC either as the result of acknowledged paedophilic interest or as part of a diverse pattern of deviant interest. These participants referred to their offending as satisfying an extreme sexual preference which existed prior to their first access of IIOC and/or which they had already considered (but not acted upon) offline. Other reported deviant interests included bestiality, rape, sado-masochism and incest. Data extracts also referred to the reinforcing aspect of IIOC access:

“I was looking at um incest porn um and it just it just went on from there... I was uh I was looking at and some of the more extreme pornography – bestiality and things like that.” – Participant 05

“I started developing fantasies about children...I just saw it [IIOC] as another level of degradation, if you like... I looked at rape sites, torture sites, bestiality sites” – Participant 08

“I am almost exclusively uh attracted to uh underage boys...it was the only to kind of um fulfil the sexual needs...I started to find the indecent images...from my

sexual desires point of view, it was of course more appealing than just looking at the decent images that I had looked at before” – Participant 07

Facilitating factors

Three facilitating sub-themes were extracted from the data. These related to factors which participants described as having enabled them to offend, or which increased their likelihood of offending, but which they felt would not have alone caused them to offend. Sub-themes which comprised the Facilitating Factors cluster included *cognitive disengagement*, *justifying beliefs* and *routine Internet use*.

Facilitating: Cognitive disengagement

The cognitive disengagement sub-theme was constructed from participants’ references to having failed to attend to the moral implications of their offending or its maladaptive impact upon their lifestyle. Offenders discussed this in active and passive terms, expressing that they either deliberately dismissed concerns about their offending or they never considered the consequences of their actions. This sub-theme embodied the concept of denial and offenders having become so engrossed in the offending process that they lacked the cognitive availability to reflect on what they were doing. Data indicated that this occurred acutely while viewing images and more generally during the maintenance phase of offending:

“I was so clever at switching off from my normal awareness and consciousness of what I’m doing, because I’m in a sort of animal state of masturbating and pursuing uh, uh, a sexual orgasm, I don’t think I had terribly analytical or technical frame of mind.” – Participant 03

“And I think I was just living in denial that I was looking at those images...you’ve got no guidance other than your own guidance and in my case that was, that was

shot to pieces...I wasn't accepting what I was doing... when those episodes came along I became a different person... the time that I was looking was just like the switch has gone over, your mind's not thinking about anything else. You don't care. There's no care." – Participant 08

"I wanted to take more, more risks in my bubble, um, where, you know, I was sitting in my arm chair at home and, you know, I'm safe... it didn't occur to me at the time that, um, you know, what, what they [the victims depicted in IIOC] were going through having their pictures taken and things like that. So it was pure, pure... it was, yeh, arousal, it was interest to curiosity and, again, didn't think outside that bubble" – Participant 02

Facilitating: Justifying beliefs – diminished harm

All participants (n = 10) gave thought to the legal, moral and practical impact of their offending but held justifying beliefs which permitted the access of IIOC. These offenders displayed diminished views of harm to the victims. They minimised the harm they perceived themselves as causing to the victims by emphasising that their part in the offending process was non-contact. A relationship emerged between this sub-theme and the nature of images accessed as several participants described that they did not regard less severe images (as measured by the categories of seriousness scale; Sentencing Council, 2013) as abusive:

"I wasn't hurting anybody by doing it...so I couldn't see how there could be any harm in it other than other than the fact it was taking up my time" – Participant 07

"Although it was wrong, it wasn't affecting anybody and I wouldn't be found out... I gradually became inured, desensitised" – Participant 01

"I thought to myself I wasn't doing anything wrong because um those images were already on the computer. I didn't then see it as a form of indecency" – Participant 04

Facilitating: Justifying beliefs – diminished culpability

Other participants (n = 5) justified their offending by perceiving themselves to be less culpable for the offence. They explained that they allowed themselves to offend by negating the role they played in the victim's abuse. Offenders described they were outside the field of blame and/or that they could not be held accountable for handling the material:

“In a sense the permission I was giving myself to surf was because I was minimising it by thinking because I was just a voyeur to this and it had happened and I was outside of it.” – Participant 03

“I thought that uh ‘I have found a loophole here that I can get away with this. I’m not really doing anything wrong’. It’s so readily available.” – Participant 04

“In my mind I’m thinking, ‘well it can’t be wrong because they’re out there’. They’re there and I’m not paying for it so, therefore, I’m not doing anything wrong” – Participant 02

Facilitating: Routine Internet use

A prevalent sub-theme which emerged from participants' accounts about their offending indicated they were already engaged in conducive patterns of Internet use which could easily extend to accessing IIOC. Participants described already using the Internet as a tool to satisfy various needs, such as regulating negative moods and to fulfil social needs, in addition to engaging in frequent prolonged periods of surfing. These factors, alongside the routine use of non-IIOC pornography, allowed participants to easily assimilate online IIOC access into their behavioural routine. A sub-theme was constructed which incorporated pre-existing habitual online practices which facilitated offending. These included:

(i) spending a significant amount of time online (n = 2),

"I was already using the Internet a hell of a lot and that usage was growing and growing...and uh viewing that material happened more often." – Participant 06

"I sort of live on the Internet in that sense, hah. A great deal, amount of my work involves the Internet. When I when I spoke to the police, I said, I said it was a bit like being an alcoholic, working in a bar sort of thing" – Participant 08

(ii) using the Internet as a forum to rectify feelings of isolation (n = 4),

"[I felt] desperate to find someone who I connected with and, um, desperate to feel comfortable in my own skin, I think. So I think those feelings would have led me to go online" – Participant 05

"Part of the reason that I went on the Internet was to look for love and I did meet women. I'd go on dating sites... I did see that as like a truly legitimate...but I was confusing that with the other chat site I was on, and maybe to some degree the images I was looking at as well" – Participant 07

(iii) using the Internet to alleviate low mood (n=2),

"If I didn't have that much to do to fill my time um sometimes when I'd just come out of bad relationships and felt um quite vulnerable that's often when I'd turn to the Internet as what I thought just something to do to fill the time and the time just sort of seemed to whizz by" – Participant 06

"I think I went to the Internet for comfort and uh and it was the worst thing I could have done" – Participant 01

(iv) and using the Internet to access non-IIOC pornographic material (n = 7),

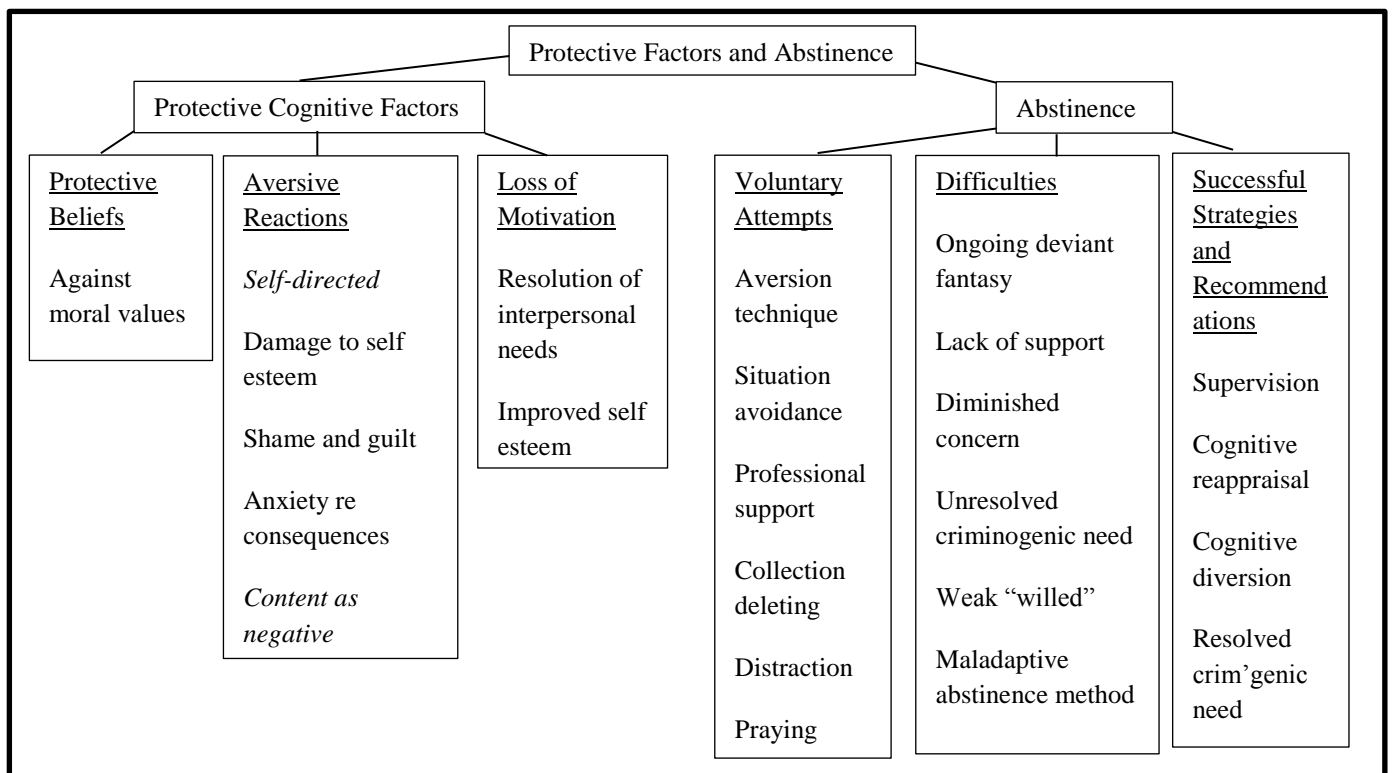
"It was a sort of extension of viewing what one might call ordinary adult porn" – Participant 10

"It would have been um gay websites. Um, fairly standard stuff... probably since I was about 12 or 13" – Participant 06

Protective Factors and Abstinence Strategies

Data analysis identified a broad theme within and across all participants' accounts relating to factors which discouraged them from further IIOC access. Sub-themes were constructed from trends in the data relating to cognitive factors which deterred them from offending and factors pertaining to abstinence strategies. The thematic hierarchical structure of these factors is presented in Figure 4.

Figure 4. Thematic hierarchy of Protective Factors and IIOC Abstinence Strategies



Protective cognitive factors

All participants reported having attempted to abstain from IIOC access at some time prior to their arrest. Protective sub-themes were categorised from their description of reasons to desist. These included *protective beliefs*, *aversive reactions* and *loss of motivation*.

Protective beliefs

Contrary to participants who held justifying beliefs, other offenders described being aware their offending behaviour was unacceptable ($n = 6$). They referred to beliefs opposed to IIOC prior to first accessing it, and stated that they experienced a degree of cognitive conflict throughout their offending. This sub-theme was comprised of references to IIOC use being morally reprehensible, against their religious values and being rightly illegal:

“Away from online activity reflecting on my behaviour, I realised I t was completely out of order and uh obnoxious and disturbing and hypocritical” – Participant 03

“My Christian faith was a part of it because...I’m not actually doing it [accessing IIOC] anonymously...God sees me doing it every time...it was uh sinning and it was hurting God” – Participant 07

“All pornography it’s um, it’s taking advantage of people...all pornography is wrong in a sense. Even I know people work in the industry, people make a living from it, but you’re taking advantage at all levels. It’s, it’s wrong” – Participant 08

A sub-theme was present amongst some participants’ accounts indicating that they experienced an acute aversive cognitive reaction to accessing the material ($n = 8$), and which discouraged them from further offending. In the context of Behavioural Theory (Bouton, 2007), these thoughts represented positive punishment reinforcers. Reactions which characterised this sub-theme included self-directed concern, such as damage to self-esteem, feelings of anxiety, shame and guilt referring to their moral identity, and concern about the (legal) consequences. Two participants explicitly described the content of the material in negative terms. That is, the majority offenders said they were surprised that they could access indecent material, but a minority said they objected to the nature of the content portrayed.

“I felt horrific...I used to masturbate during when I was looking at child images but just, a huge amount of shame afterwards and self-loathing and hatred of myself. That’s when the thoughts of killing myself came on... the shame the self-loathing, the hatred of myself. I could not have felt worse about myself... I thought I’d either, either, either stop it by killing myself or getting arrested and in the end I got arrested” – Participant 08

“I knew it was a wrong thing to be doing in itself...I might get into problems with the law...it was a waste of time...it was impacting on my sleep... I didn’t want to be doing that or anything...It was stopping me from doing something productive where I’ve got something to do from all my various spare time activities.” – Participant 07

Loss of motivation

A small sub-theme was extracted from one participant’s account which referred to losing of motivation to offend. The participants described their urge to offend attenuated due to their criminogenic needs being met adaptively offline. This broadly comprised experiencing an improvement in self-esteem, gaining a more fulfilling lifestyle and fulfilling interpersonal needs:

“There would be periods of a month or so where I would feel absolutely fantastic about my life in general and I would not go online at all really...I’d found someone in life that I wanted to spend a lot of time with and was very, very happy...The issues surrounding being loved and things were slowly going away...it was feeling talented, wanted, having a connection with someone, someone showing gratitude.” – Participant 06

Unsuccessful abstinence strategies

A broad sub-theme was extracted from eight of the ten participants' accounts relating to methods by which they had each attempted to curtail their offending prior to arrest.

Subordinate sub-themes indicated the methods by which they attempted to abstain, why these were unsuccessful and current successful abstinence strategies. Unsuccessful methods included:

(i) employing an aversion technique (shock),

"I wonder[ed] if it was that horrendous, if I look at these I'll never go back again. This this will be it, this will break it for me. How much further are you going to go into this sewer? Into this pit? Um, what else are you going to do? It was like...wanting to really shock myself." – Participant 08

(ii) accessing professional support. One offender sought professional assistance to address his use of online pornography, however, he did not disclose his offending behaviour to the therapist and so, he did undertake any offence-specific intervention,

"I went to see this person who, who did hypnotherapy for addictions. He said... 'well I can't, I can't use hypnotherapy because I could end up making you not wanting to use your computer.' I'd say look, I'm, I think I'm addicted to pornography and I think I'm addicted to chat rooms and I want to stop doing it. I told my new partner that I was addicted to the Internet, to pornography and to chat rooms. She said 'you've got to stop', and I was getting help because I was seeing a counsellor about my addiction and in fact she [the offender's partner] came to a couple of sessions that I had with the counsellor" – Participant 04

(iii) situation avoidance,

"I would try to put, put things in place or, or put myself into situations where I'd be less likely to do it., depending on my situation, where I was living or who I was

living with. I could decide I'm leaving the laptop there in the living room and I'm going to bed...or making sure the Internet goes off" – Participant 07

"In order to try and break my habit, I'd make up, make up a non-memorable password. I'd go on to the site, deactivate the site, put in the, the new password, knowing that I could never go back in with that password for that e-mail and that password. Um, but it wasn't done from the point of view of trying to avoid detection. It was done to stop me going back... [and] I wouldn't look at adult porn" – Participant 05

(iv) deleting collections,

"There'd been times when I felt so sickened by my own behaviour I've got rid of any mages on my computer. I did something stupidly ceremonial by burning all the images to a CD and cracking the CD into as many pieces as possible and burying it in the forest." – Participant 06

"I deleted images... I used a very strong wiping software that I'd been told about" – Participant 10

(v) cognitive or behavioural diversion,

"On occasion I used to...read those stories [online erotic fiction] and encourage myself to go on there because I felt it was a much less wrong way of uh satisfying myself" – Participant 01

"Deciding that I'm going to take the opportunity to talk with my flatmate or go out and do something or make a phone call or there's all those kind of ways that I would try and stop myself" – Participant 09

(v) and praying,

"I prayed for myself the night before to not look at the stuff the following day generally it worked and I didn't look at that stuff... It would quite often be the case that, when I did look I'd realise and look back in my little prayer diary and I'd realise oh yeh I didn't pray not to do that." – Participant 07

Difficulties with abstinence

Each participant who reported attempting to abstain, discussed that they ultimately failed until arrested. One participant was convicted for a second time for follow up offences. Sub-themes regarding difficulties with abstinence comprised:

- (i) ongoing deviant fantasy (n =3),

“Once my libido came back I’d be masturbating and, of course, I’d still be having all those kind of thoughts...very wrong kind of thoughts...lusting over a child... I’m still thinking all those thoughts about children” – Participant 06

- (ii) lack of personal or professional support (n = 4),

“I almost wanted to tell someone at times, I really wanted to just do something but without anyone else finding...having your hand forced upon you [by arrest] almost makes it a lot easier because then people know and you suddenly realise there’s support out there” – Participant 01

“In an ironic sense never, [I] never felt I could get help because it was such a serious offence... I was very, very close until the thought crossed my mind that I would have to say to that person over the phone what I’d been doing or what thoughts I’d had...I certainly didn’t think of admitting to it was something I could do at that stage” – Participant 02

- (iii) diminished concerns, whereby offenders began to forget or overlook feelings of shame or disgust or concerns about being caught (n =5),

“I might have had gut reactions, like being disgusted at first... but not regular and not very often” – Participant 03

“One’s, uh, hostility towards them [IIOC] or one’s disbelief about them so clearly declined over, over time until one became in a way inured to those initial

feelings... I must have, um, suppressed entirely my feelings of shame and guilt for a while.” – Participant 10

(iv) unresolved criminogenic needs (stressful/unfulfilling lifestyle; n = 7),

“I hadn’t tackled the underlying reason why I was doing this which was partly depression...I felt sad that so much of what I’ve lost as a result of my Internet activities” – Participant 08

“I have a hell of a lot of time on my own in the house all day long...now and then you do get the thought [of offending] cross your mind.” – Participant 06

(v) overwhelming positive reinforcement of access (n = 6),

“Even though I was telling myself it was wrong, it was an easier way um for sexual gratification” – Participant 04

“Later on after I’d managed to give myself permission... they were giving me a type of thrill that was exciting and so I pursued them” – Participant 03

(vi) ineffectual practical abstinence strategies (n = 3),

“I was also feeling quite good and really happy about the fact that I wasn’t [accessing IIOC]. Unfortunately I got an upgrade on my phone...I deliberately didn’t include Internet as part of it but I can still access Internet via WiFi.” – Participant 07

“I said to myself I’ve got a few images saved on the computer, I can see them if I need. I don’t need to search anymore because they are always the same. But you go again. You go again.” – Participant 09

(vii) and practical inconveniences of an abstinent lifestyle (n = 3),

“The sexual frustration is back of course. Particularly because I no longer have the regular contact with kids either so that’s a bit of a double whammy because I had so much contact with kids before...Not having contact with kids that’s a lot

harder than not viewing the images because the contact with kids was such a big part of my life and always boosted me so much.” – Participant 07

“I’ve walked away from a very well paid job, I’ve walked away from lots of money that I’m no longer going to have... I’d like to go and work in the Far East so there’s a whole host of things that it’s blocked me from being able to do as a practical consequence.” – Participant 08

Successful abstinence strategies

All participants currently denied engaging in any offending and said they had successfully abstained from IIOC use since their arrest. Sub-themes of adaptive abstinence methods were extracted including:

- (i) supervision/monitoring of Internet use by spouse, the police and/or purpose-built software (n = 3),

“It’s trying to rebuild trust with my wife which means she now monitors my Internet access which has forced me to effectively go through an indecent image, porn cold turkey. She despises porn as it is” – Participant 01

“The Police offered to put the ‘Securis’ software on to my laptop for free and of course that means if I access anything that the Police, the person that’s in charge of me while I’m on the [Sexual Offender] Register would see it. That that was an easy stop. [And] another friend of mine has said that he thinks there’s some software that you can get on, on phones where, where two people can kind of keep each other accountable and he’s willing to do that with me” – Participant 05

- (ii) appropriate professional and personal support (n = 4),

“I’ve been very fortunate to have my family very close to me...my parents...my in-laws...my brother has been supportive, but my wife has been the one that I’m

with every day and I think because I explore feelings more... I felt it important still to talk to professionals because they can give a view of something you might not have thought of.” – Participant 02

“People around me know what I’ve done. There’s a massive support network there and I know where to go for help and who to talk to, whether it be anonymously or whether it be to my wife.” – Participant 01

(iii) cognitive reappraisal with a focus on the negative consequences of offending (n = 6),

“There is no desire for me to log on and look at indecent images. I don’t want to because of the fear of being caught again. I just don’t want to.” – Participant 09

“The thought of prison was enough of a deterrent.” – Participant 04

(iv) cognitive reappraisal with a focus on improved victim empathy and accepting culpability (n = 4). This sub-theme was characterised by apparent improvements in victim empathy via formal intervention,

“It’s the course that brought me out. These are real children, these are real situations. They’re not digitalised, they’re not made up whatever, these are real.” – Participant 08

“I hope to God you never see the transcript [of online IRC discourse regarding HIOC], it’s horrid. It’s, the just a complete transcript for filth. Terrible. If I go back and read, read between those things...it re-wired my brain, ok I’m not going to do this.” – Participant 07

(v) cognitive and behavioural diversion techniques (n = 6),

“I think the technical term I’ve been told is ‘channel hopping’, trying to put other thoughts in my head, trying to alter it” – Participant 01

“It’s the constant trying to make sure I’m busy and I’ve got stuff to do. It’s knowing that I might be at risk if I sat at home with the Internet and myself. So

it's, it's that constant having a plan for every day, all the time, having no spare...making sure you have no spare time, almost.” – Participant 04

(vi) and sexual preference re-conditioning (n = 1),

“I should try to move the age group upwards by trying to think more about older like the, you know, young adults or kind of adults who look young.” – Participant 07

Participant abstinence recommendations

When reflecting on their offending pathways, several participants voluntarily suggested factors which may have stopped them from accessing IIOC. These represented virtual barriers which participants considered had the potential to cognitively or practically interrupt their course of action and prompt them to desist. Participants recommended that the measures would likely be efficacious for all IIOC users.

Abstinence recommendations: Improved advertising of available support

This sub-theme was derived from one participant's account who perceived a reduction in his own risk after engaging with therapeutic services, post-conviction. He discussed that had he been aware of the available professional support agencies during his offending then he may have been more likely to refer himself or disclose his IIOC access:

“[I] never ever felt like I could get help...I watched um a news bulletin once when I was offending and...it was about the [intervention agency] ...I was very, very close to picking up the phone because I never ever realised that anything was out there for this particular behaviour.” – Participant 06

Abstinence recommendations: More stringent security measures

A prevalent sub-theme extracted from the accounts of several participants (n = 4) related to the ease with which indecent material could be accessed. Participants alluded to the potential benefits of more stringent security measures to block access to indecent sites, which could be implemented by Internet providers. Had there been a greater cost (financial or practical) to offenders, participants may have been deterred or simply unable to retrieve the images:

“I’m probably an expert now on how to block things and how to get rid of it. I’m hoping that the right authorities know about it now and it shocks me that they haven’t or can’t do something about it.” – Participant 02

“It’s [IIOC] free and it’s so readily available” – Participant 04

Abstinence recommendations: Advisory online notifications

At the core of this sub-theme, offenders proposed that IIOC should be clearly demarked from legal pornographic material via advisory notices displayed immediately before indecent material can be opened. Participants (n = 2) discussed that implementing online warnings to site-users that the material they are about to access is illegal may deter would-be users by interrupting their pro-offending thought processes. It was suggested that a current lack of information and warning to users may facilitate offending by allowing them to potentially unknowingly access indecent material when following progressive website links. One participant stated that had he been reprimanded or reminded by an official body that his actions were illegal he would have been more likely to desist.

“If you had a big hand that came up and said “Stop – no” then that would [aid abstinence]. If suddenly, I don’t know, it was all switched off overnight and you couldn’t get at anything, um, and yet you keep getting up sites saying “It’s been

turned off because you guys shouldn't do this you know then perhaps that's different." – Participant 02

"I think the difficulty I had there was no demarcation... There's no barriers, [there] doesn't seem to be anything [to denote] you're now going beyond what's legal to an illegal site, there's nothing like that to tell you so you've got no guidance other than your own guidance and in my case that was, that was shot to pieces." – Participant 08

Contact Sexual Offending Risk

Nearly all participants categorically denied ever experiencing an urge to perpetrate a contact sexual offence against a child ($n = 9$). Few elaborated beyond abridged comments, simply stating that it was not something they had ever contemplated. However, one protective theme was extracted, representing the presence of deterrent beliefs regarding the nature of victim harm. Participants described child molestation offences as being more morally reprehensible than IIOC offences as they perceived the former to inflict a greater degree of harm to the victim. Data items within this theme referred to child contact sexual offences as being beyond acceptable behavioural or moral boundaries:

"I find that [child abuse] appalling...I still find that very disturbing in terms of the Internet offending and seeing it in the same light as people who have contact offended. And I have a lot of difficulty with that and thinking of them as the same thing." – Participant 02

"It was not something I ever wanted to do...the irony of the whole thing I had a very, very good track record of protecting the welfare of students and seeing cases of possible neglect or possible abuse and reporting them upwards and I never shied away from them. It's just the ultimate terrible irony that in my own spare

time, what was I doing [perpetrating IIOC offences] and it doesn't look good.” – Participant 06

However, one participant disclosed that he experienced urges to perpetrate a contact sexual offence against a child. This participant denied having acted on this urge, but referred to having a pre-existing paedophilic interest prior to his first IIOC access. The participant reflected that thoughts of child abuse were only activated when he had incidental access to a potential victim, with the child itself acting as a trigger for the thoughts. A theme emerged which suggested that using IIOC reduced the short term risk of contact offending as it induced thoughts of shame and regret, post-sexual climax:

“Generally if I'd just been accessing that stuff [online IIOC] then I wouldn't be with kids or I wouldn't be about to be with kids. Generally once I'd looked at the stuff, it was pleasurable but I came out disappointed and feeling it was a waste of time and therefore actually my desire for contact would have been lessened because I was feeling more negative about it. I was much more likely to have been tempted, um, to do a contact offence when I was just simply with children.” – Participant 07

Nature of IIOC content

All participants reported that they preferred to seek novel IIOC content than return to any previously visited or stored material. This was either done by returning to previously visited sources in the hope that new material had been posted and by seeking novel sources.

Participants broadly related their interest in novel material to having become habituated to already seen images, recounting that accessing unseen images provided greater stimulation.

There was a conceptual overlap between the desire for novel material and the addictive function of their offending:

“Once you’ve seen it once...it just never had the same appeal again so yeh, that was definitely always looking for new things.” – Participant 03

“When you’ve got new material you...look then you want to see is there anything new there? That’s the constant like craving for something which is anything new.” – Participant 09

“[I preferred to] visit new material, looking for the perfect image.” – Participant 04

Content type

Participants discussed the nature of the content of IIOC they accessed with reference to the five-tier seriousness scale used by the Sentencing Council at the time of the study (Sentencing Guidelines Council, 2007). Since the data was collected the agency has revised the system to a three-tier scale (see Appendix B for details). For the purposes of interpreting the current results, references to ‘Level 1’ images equate with current Category C material; ‘Levels 2 and 3’ equate with current Category B material; and ‘Levels 4 and 5’ comprise the most severe material, equating to Category A images (Sentencing Council, 2013).

Offenders broadly described a pattern of escalating severity, having initially accessed lower level images, exclusively Levels 1 or 2 at the their first offence, and then deliberately or incidentally accessing more severe content, up to Level 5 as they continued to offend. They attributed this to an escalating interest, in the context of the addiction metaphor and habituation to lower-level content:

“They got progressively more severe...The Police are currently looking at my laptop...it wouldn’t surprise me if they classed maybe two of them three of them as Level 5 but that was the extent that it, it sort of increased from Level 1 all the way up... like a drug you always need the bigger hit.” – Participant 06

Conversely, other participants attempted to avoid more severe content due to their protective reactions and beliefs. They described being deterred by more severe content:

“I had viewed some stuff with infants in...that was very much a turn off...I remember just being disgusted...[Level] 3’s and 4’s so there’s actual contact going on and oral sex and sex happening.” – Participant 01

“I do remember opening up one thing once and it depicted things I didn’t want to see and I deleted it immediately. That shocked me, the Level 3, 4, 5 never... I didn’t want to see.” – Participant 02

Maintaining collections

Despite their stated preference for novel material, six of the eight participants reported maintaining a store of indecent images. These include hard copies of images stored on electronic disc and a virtual store, namely via ‘Flickr’. Of these participants, the majority said that their collection of IIOC formed part of a broader collection of sexually-based images, mostly depicting legal adult pornography. One offender reported that at the time of their arrest, their collection comprised approximately 100,000 adult images, some of which were bestial in content, and approximately 6,500 IIOC. Others said they chose not to maintain a collection for fear of being detected, or as part of abstinence strategies.

Pattern of IIOC access

Participants almost exclusively stated that they accessed IIOC while alone, either when living alone or when they were apart from their housemates. Participants engaged in varying degrees of effort to conceal their offending. Some waited for incidental opportunities to arise, while others deliberately manipulated their environment:

“It was just a case of finding out his [the offender’s partner’s] routine, finding out when he’d be back, initiating a pattern of him texting me when he was on his way home so I could work out how long he was going to be and that pattern lasted that way up until the day of my arrest.” – Participant 06

“by managing the situation I would be offending in the late hours of the night when everybody else was asleep and...where I was offending in the house meant that I was very aware of whether anybody else was awake and about.” – Participant 03

“I do remember uh engaging in sexual activity online when my brother was asleep in the same room.” – Participant 06

The length of time spent of each individual IIOC session at outset of offending ranged from between less than one hour to approximately eight hours. During the maintenance period of their offending, the duration of sessions became longer, ranging from between 30 minutes to 10 hours. Participants explained that within that time, the majority of it could be spent trying to find material, with a significant minority of the time spent viewing images. Participants referred to their recognition of time passing becoming distorted during offending sessions, which meant they could spend longer in their pursuit than they were aware of, for instance one said, *“Time becomes very grey in that world” – Participant 02.*

DISCUSSION

Study 1 aimed to explore factors which contribute to the risk of IIOC users first accessing the material, and perpetuating factors which sustain their offending behaviour. It examined these factors by conducting a thematic analysis of the accounts of a group of convicted offenders undertaking offence-focused intervention about the nature of their offending. Aetiological reasons for IIOC use were identified via a bottom-up atheoretical exploration of IIOC

offenders' descriptions of their motivation to first access indecent material and factors which sustained their subsequent offending behaviour.

Qualitative data analysis resulted in the extraction of motivational themes to offend, conceptually consistent with risk factors of contact sexual offending (Ward & Beech, 2006), namely: emotion dysregulation, unmet intimacy needs, deviant sexual interest and pro-offending cognitive distortions. These results support the findings of Middleton et al. (2006), which indicated that the offending pathways of 46% ($n = 33$) of their sample of IIOC users could be accounted for by primary or interacting deficits in each of the four risk domains. The results drawn from the current study are also consistent with the theoretic role of the four contact offending risk factors proposed by Elliott and Beech (2009) in the application of IIOC use.

Emotion Dysregulation

The most prevalent theme to emerge from data analysis was the function of IIOC use as a maladaptive coping strategy to manage emotional dysphoria. Many participants described their offending behaviour as a direct or indirect reaction to offline negative events or chronic stressful and unfulfilling lifestyle factors, such as boredom, financial difficulty and relationship collapse, as suggested by Elliott and Beech (2009). Several participants who reported suffering these negative events simultaneously referred to their IIOC use as providing them with an emotional *escape*, *distraction* or *cut-off*. This replicated Quayle and Taylor's (2002) findings in which offenders reported that they chose to access indecent material as a means to alleviate stress and/or replace it with a positive mood state generated by using IIOC. This function of IIOC use is best understood in the context of models of effective and maladaptive emotion regulation.

Gross (1998) proposed that emotions (positive or negative) are generated in a four stage process whereby an event occurs, the subject attends to it, they cognitively appraise it (characterised by their idiosyncratic core beliefs) and they then decide how to accordingly react. Gross and Thompson (2007) added to the model to suggest that an individual has the opportunity to manage their experience of positive and negative emotions at any of five stages of emotion generation via:

- *situation selection* – whereby the subject avoids situations which they perceive will invoke a negative mood state and/or actively seek to engage in positive events;
- *situation modification* – the subject actively manipulates an already ongoing event to enhance its positive elements and minimise negative elements;
- *attention deployment* – the subject redirects their attention away from ongoing negative events towards something more positive, e.g. via distraction or selective concentration;
- *cognitive change* – the subject reappraises an ongoing event to regard in order to regard it as less aversive or more positive. For instance, the subject may choose to regard a negative situation as an opportunity;
- *response modulation* – the subject engages in behaviours to extend positive and/or minimise negative mood after an emotion has been generated.

In the context of Gross and Thompson's (2007) model, IIOC use can be understood as a maladaptive form of *response modulation*. That is, it is a behavioural response to improve mood after succumbing to stress-inducing events.

Data treatment resulted in the construction of several themes of positive and negative reactions to accessing IIOC, which suggest that the offending process likely comprises a

somewhat self-perpetuating maladaptive emotional regulatory loop. That is, participants reported accessing IIOC as a means to alleviate stress. They described that this was successful as it provided them with a means of distraction, excitement or sexual gratification. However, many of the offenders also reported having experienced converse emotions of shame and guilt as a result of their actions, typically in the knowledge that it was wrong or self-damaging. As such, much of the offender sample can be considered to have exhibited a degree of cognitive dissonance, characterised by their negative reflections about their offending, diametrically opposed to their desire to continue to access IIOC. The stress generated by this emotional conflict is likely to have added to the original levels of stress which drove the offenders to accessing the material in the first instance.

The participants' degree of cognitive dissonance regarding their offending can be thought to be measurably manifested in their historic attempts to abstain from accessing the images at various times throughout their offending careers. The offenders listed a number of factors which prompted them to attempt to abstain from offending, however, each described that these attempts ultimately failed as they continued to lack alternative effective coping strategies to adaptively manage their distress. The additional dissonance they experienced from these failed abstinence attempts is likely to have further compounded the negative emotions from which they initially wished to escape and so, again, respectively increased their risk of re-accessing IIOC to alleviate dysphoric states.

Another prevalent regulatory theme which emerged from many participants' accounts of their motivation to offend was the role of their IIOC use as an addiction artefact. Participants likened their urge to access material to a psychological dependence upon alcohol or illegal drugs. These participants described engaging in IIOC use to replicate high levels of positive mood and euphoria which it had previously offered them. Offender accounts indicated that

their desire to access the material became so acute that it over-rode any existing concerns about their behaviour, referring to the disinhibiting effect of a *craving, compulsion, obsession* and *lack of control*.

Support for this theme is offered by studies which have identified an addictive or compulsive element of legal pornography use (Laier, Pawlikowski, Pekal, Schulte, & Brand, 2013; Wetterneck, Burgess, Short, Smith, & Cervantes, 2012). The results of fMRI scans of participants who were considered to display hypersexuality indicated there may be a strong neural basis which motivated them to repeat reward seeking sexual behaviour (Politis et al., 2013). This suggests the presence of neural correlates between compulsive tendencies and problematic sexual behaviour.

However, IIOC use as a means of coping with low mood does not fully account for offenders' motivation to first access the material as users would be unaware that it would alleviate necessarily stress. Other personality-based factors associated with maladaptive emotion regulation offer more evidence for initial access. Several participants described that they engaged in IIOC use as part of a characteristic tendency to push boundaries and engage in impulsive behaviours. A theme emerged in which participants attributed their initial IIOC offence to *sensation-seeking* tendencies. With regard to Gross and Thompson's (2007) emotion regulation model, these participants can be regarded as handling material as a situation selection strategy specifically to break moral boundaries.

Gross and Thompson's (2007) model of emotion regulation can be used as a framework to offer insight into successful and unsuccessful abstinence strategies. A number of participants reported that *situation selection* abstinence strategies failed. A subtheme was constructed indicating that participants attempted to disengage from offending by removing or avoiding

the opportunity to offend, for example, by deleting collections or avoiding situations in which they may have been likely to access IIOC. Ultimately, these participants stated that they were unable to manage their situation around the clock. For instance, participants who hoped to avoid accessing IIOC by refraining from any Internet use found that they needed to go online for non-offending purposes, which placed them in a high risk situation of re-offending.

Similarly, participants' attempts to distract themselves with other behaviours, including attending to work or reading sexual fiction, were only successful in the short term.

Participants reflected that these strategies that the original motivating factor(s) to offend had not been addressed and that criminogenic needs remained, such as an unfulfilling lifestyle.

Longer term success was met by engaging in more adaptive means of emotion regulation.

This included the use of attention redeployment. Participants described that they were able to resist urges to offend by cognitively 'channel hopping' and focusing their cognitive attention to other activities. The offenders reported that this method was more successful than simple behavioural diversion and that it was complemented by psycho-education to address facilitating cognitive distortions.

Deviant interest

Two key themes were extracted regarding the role of deviant sexual interest in motivating IIOC use: (i) offending was driven by an acknowledged pre-existing sexual preference for underage subjects, or; (ii) participants reported having developed novel sexual fantasies after incidentally accessing IIOC. The latter theme offers some support towards Sullivan and Beech's (2004) Escalation Theory, which proposes that pornography users may seek novel or more extreme material in response to becoming habituated to legal content. Participants in the current study stated that they developed a novel attraction towards minors as an artefact of

incidental conditioning, which they then found more rewarding than legal sexualised images. These offenders recalled first viewing IIOC by chance when seeking legal pornography and whilst sexually aroused. It may be that that they experienced conditioned arousal to the indecent material as it was incorporated into their preferred source of masturbatory material.

Concerns have been raised that users of online IIOC may be at a greater risk of perpetrating a contact sexual offence due to the development of sexual fantasies regarding child molestation (Sullivan & Beech, 2004). Images which depict child molestation as masturbatory material may reinforce a powerful sexual fantasy to contact offend, especially if an opportunity were to be available. However, the current study found little or no evidence for the use of online IIOC increasing the risk of contact sexual offending. Nearly all participants denied the presence of any deviant fantasies regarding child abuse throughout the entire duration of their offending. However, it is noted that participants in treatment may have been more reluctant to disclose such fantasies in interview for fear that they may be perceived as presenting a higher risk of contact offending.

One participant disclosed an urge to perpetrate a contact sexual offence but denied that this was the result of IIOC use, stating that it pre-dated their first access. There is broader academic uncertainty regarding the impact of IIOC use in this context upon contact sexual offending risk. The participant reported that using the IIOC as a masturbatory aid reduced urges to contact offend in the short term by invoking feelings of shame and guilt post-climax, akin to the findings of Reigel (2004). In the longer term, using IIOC may have reinforced a significant risk of contact offending as the participant disclosed experiencing acute thoughts of molesting a child, triggered by being in the company of a minor. Further investigation is required to gain greater insight into the reciprocal relationship between IIOC use and the presence of fantasies of perpetrating child abuse.

With regard to Middleton et al.'s (2006) findings, the authors found relatively few IIOC users had singular deficits in their sexual scripts which accounted for their offending behaviour. However, the current study found greater evidence for the presence of distorted scripts amongst IIOC users. The discrepancy between the current findings and those of Middleton et al. (2006) may be an artefact of the different methods used to measure deviant sexual interest. The current study extracted evidence from offenders' detailed self-reflection rather than being quantitative psychometric data. Measures such as the Children and Sex Questionnaire (Beckett, 1987), used by Middleton et al. (2006), offer some indication of the presence of deviant interest, however, they may not be as sensitive to detecting subtle and nuanced indicators. Studies which rely solely upon psychometric measure of deviant sexual interest may under-represent the presence of distorted sexual scripts (Seto, Cantor, & Blanchard, 2006). Further investigation involving the use of anatomical tools such as the penile plethysmograph (PPG) may add further pivotal insight.

Interpersonal function

The current study identified two participants who attributed their IIOC use to its role as serving an interpersonal function. These participants disclosed being in unsatisfying interpersonal relationships or lacking any meaningful offline intimate or social connection, and stated that engaging in online sharing of IIOC facilitated a means of interaction with other users. They stated that the deviant nature of the material was a secondary motivator in comparison with interpersonal reward of communicating with traders, consistent with the findings of Quayle and Taylor (2002). This basis of IIOC use was inextricably linked to the medium via offenders accessed material, namely IRC. Both participants who described the reinforcing interpersonal effect of sharing IIOC stated that this was associated with trading images, sharing personal collections with others in order to facilitate conversation. It can be

considered that the presence of unmet intimacy as a risk factor for IIOC use also poses a risk of trading material, rather than accessing alone.

Participants who spoke of the reinforcing role of IIOC use to meet intimacy needs stated that they were ultimately able to successfully abstain after their life circumstances changed and their interpersonal needs began to be met meaningfully offline. One offender stated that his cessation of IIOC use correlated with becoming more sociable and spending quality time with their family. Another said that they felt more able to desist after they embarked upon a fulfilling relationship, stating they felt “cared for.” As such, the formation of meaningful offline interpersonal relationships can be regarded as protective, having, in part, fulfilled this previously unmet criminogenic need. Although several participants were engaged in offline relationships throughout their offending, the poor quality of these relationships meant that this factor still played an active role in the nature of their risk. Notably, however, no participants reported feeling a reinforcing closeness with the victims depicted in the images they accessed, contrary to the function of engendering pseudo-intimacy in IIOC risk, as found by Quayle and Taylor (2002).

Facilitating beliefs

Cognitive beliefs regarding IIOC use were found to have a facilitating role amongst offenders in the current study. These beliefs comprised justifying attitudes towards offending behaviour on the basis of *diminished culpability*, *diminished victim harm* or *cognitive disengagement*.

With regards to culpability, participants described that the material was readily available and so believed they were not inflicting any harm or even perpetrating an offence. As such, they morally distanced themselves from the individuals responsible for taking the images, regarding themselves as less guilty. In one instance, a participant cited the belief that legal

loopholes must have existed to allow the commercial trade of (particularly nudist) material. This offers support to the findings of Lam et al. (2010) which indicated a lack of awareness of the illegality of possession of certain types of IIOC amongst a university sample.

Participants reported that as they continued to offend, they experienced (or attended to fewer) concerns about what they their offending behaviour, reporting less shame and/or concerns about being caught. This is presumably because they became habituated to the material and there were no counter-occurrences to suggest they would be caught or that victims were being harmed. That is, offenders worried less about being caught because they had not yet been apprehended; and they felt less shame as there were no triggers to remind them of their shame or guilty. Other participants, however, stated that they allowed themselves to access material by cognitively disengaging or simply over-riding any protective concerns they had about their behaviour. Of these participants, some suggested that online visual cues or 'flash pages' to remind users that their actions are illegal and harmful would go some way to IIOC prompt users to immediately discontinue retrieving material. Further protective sub-themes were extracted which advocated the role of psycho-education to nullify justifying beliefs and remind IIOC offenders of the nature of harm to victims.

Indicators of beliefs were found which allowed offenders to access material online based upon their distorted perception of victim harm. They displayed minimising attitudes towards the harm inflicted to victims depicted in images of a lower level of seriousness (akin to current categories C and B; Sentencing Council, 2013). These participants described the belief that it was more permissible to access images which broadly represented an intrusion of the victim's privacy (such as material obtained from nudist sites) than accessing images which depicted direct child molestation. Beliefs of this nature, in part, appear to have held a protective influence against dual (online and contact sexual) offending. These participants

refuted experiencing any urges to contact offend as they regarded child molestation as morally reprehensible and being against their core beliefs, for instance, stating that it is “*completely wrong*”. This manifested in the nature of IIOC which participants preferred to access as many stated they were deterred by images depicting child molestation as they found the concept offensive.

It may be online offenders as a whole may broadly benefit from intervention aimed to improve victim empathy. Treatment which emphasises to the offender that all minors depicted in sexualised images are the victim of a sexual offence, often involving a contact offence perpetrated by whoever took the image, may help address the distorted belief that accessing lower level IIOC is less reprehensible (Jones & Skogrand, 2005). Offenders should also be reminded of indirect relationship between increased use of IIOC and the incidence of contact child sexual offences via the demand for more images to be produced (CEOP, 2012).

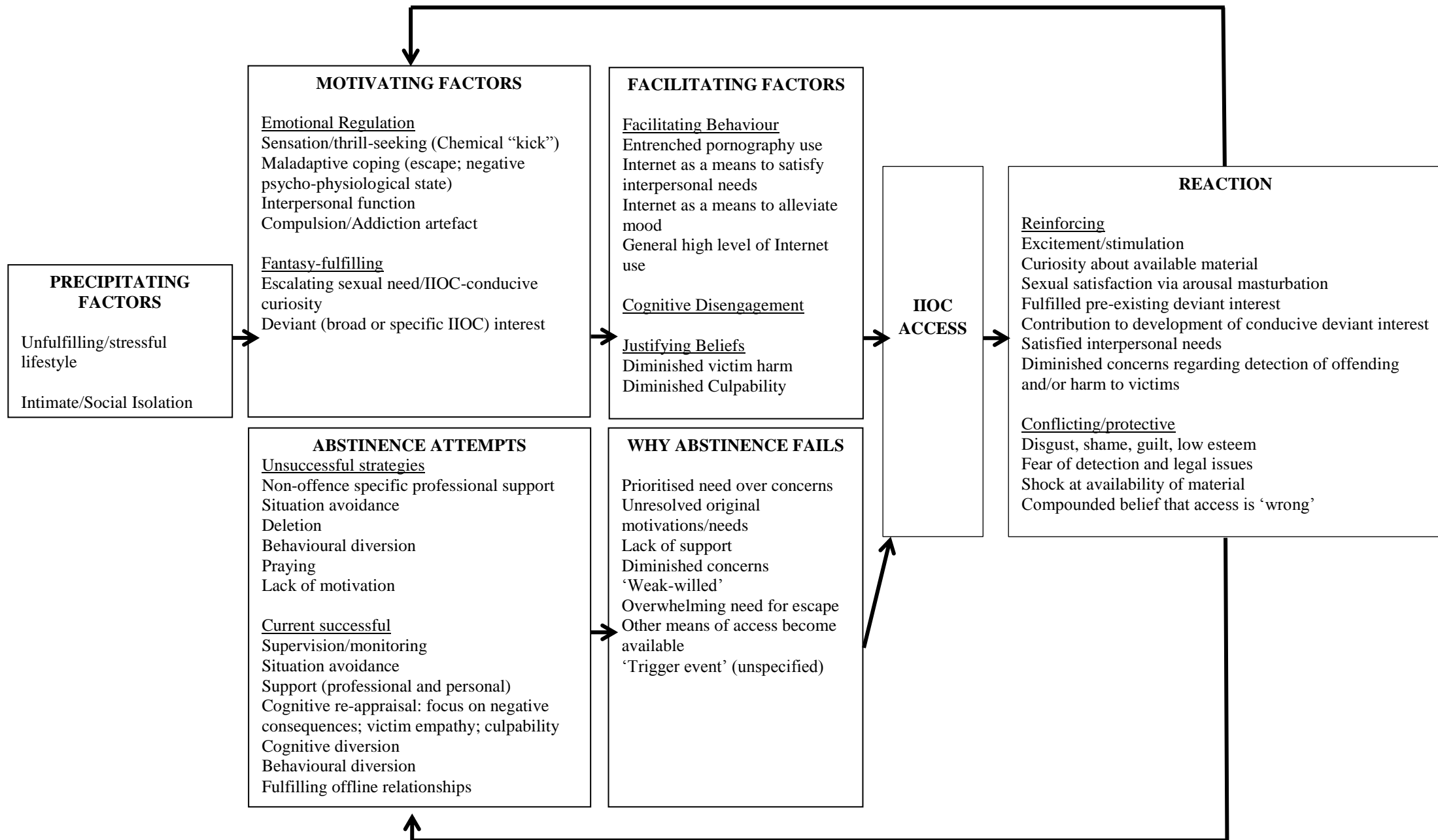
Unique risk factors associated with IIOC use

The current findings, in part, answer one of the questions raised by the results of Middleton et al. (2006), regarding risk factors which may be unique to online IIOC use but which are not represented by deficits in one of the four primary risk domains associated with contact sexual offending. One theme extracted from participants’ accounts related to the complementary role of entrenched routine Internet use. Participants described that they were vulnerable to engaging in online IIOC use as they relied upon the Internet to satisfy many of their needs, such as entrenched online legal pornography use. Further, whilst participants reported deficits in the four contact offending risk domains, their entrenched reliance upon the Internet to compensate for those deficits, in itself, may act as a risk factor. That is, individuals with unmet intimacy needs may be thought to be at an increased risk of using IIOC, however, this

risk is compounded if they are already engaged in routine Internet use to try and meet these needs, for example, by communicating in chat rooms. Such behaviours increase the likelihood that they will be directly exposed to online IIOC or indirectly exposed to it via fellow users, whilst limiting their opportunity to develop fulfilling offline relationships.

The addictive element of IIOC use reported by many participants in the current study can be considered to be a key factor unique to online offending behaviour which is not as visible in contact sexual offending. This is likely, in part, an artefact of the ease with which offenders can access material to satisfy their needs. The risk of further offending compounds as a result of the ready availability, affordability and perceived anonymity of material access with which IIOC users can offend (Cooper, 2002), when contrasted with the complexity of victim access for contact sexual offenders.

The ‘missing factor’ relating to online IIOC use is likely the idiosyncratic combination of some or all of the following factors: the entrenched withdrawal to an online world to cope with stress-inducing offline events and the reliance on virtual interaction to meet intimacy needs; the escalation and/or reinforcement of deviant IIOC interest via its use as a masturbatory tool; the consequent presence of an addictive element of IIOC use; the lack of protective reminders about illegality of IIOC use, the likelihood of being caught and the diminished perception of victim harm due to habituation; and the lack of criminogenic needs being resolved offline. The interacting contribution of these thematic factors to the IIOC offending process is illustrated in Figure 5. The model illustrates the self-perpetuating nature of IIOC use within a regulatory cycle. Re-accessing material can be seen to reinforce existing risk

Figure 5. Flowchart of risk factors contributing to the IIOC offending cycle.

factors. For instance, many participants reported using IIOC to alleviate negative emotions. Although accessing material helped reduce negative moods in the short term, it had a long term reinforcing effect, by creating stronger feelings of guilt and shame, which the user then struggled to escape from. In the absence of more adaptive means to cope with the stronger negative emotions, users ultimately returned to IIOC for short term relief. The offenders' likelihood of returning to use IIOC as a strategy to manage mood was compounded by the parallel process of becoming progressively more aroused by the content (via a form of conditioning).

Offending approach

Important details of the technical methods which participants used to retrieve IIOC, and how their preferred methods changed throughout their offending careers, are presented in Appendix K. However, a prevalent general theme extracted from the data indicated that the majority of participants' first access was incidental, and IIOC was accessed indirectly. Participants denied deliberately attempting to retrieve sexualised images of underage subjects and most often said that their first offence was a by-product of general online technological methods they used at the time. For instance, many reported that they routinely accessed legal online pornography and it was due to the unsophisticated nature of these methods to discriminate between legal and indecent material and the mixed nature of content on sites that they incidentally encountered IIOC.

Data regarding the duration of offending sessions indicated that all participants spent large amounts of time accessing images, lasting up to ten hours. However, the pattern of offence behaviour within these sessions appeared to delineate into two distinct approach styles, mediated by the method of image access: (i) participants who continued to follow a passive approach did not refine their rudimentary method from first access, and; (ii) participants who

actively altered the manner in which they retrieved images for a greater yield or to avoid detection.

Passive offenders explained that offending sessions lasted for significant periods due to the considerable amount of time required to sift through previously seen or unrelated images for novel images or those of interest, often unsuccessfully. They also described employing rudimentary strategies to avoid detection, for example, only using their personal laptop to access images rather than a shared device, and they offended opportunistically, for instance, waiting for others in their home either to be away or in bed. Participants who followed a more direct approach to offending described engaging in lengthy offending sessions due to the high volume of images they felt they needed to access to satisfy their offending urge. The methods of accessed they used typically yielded a much greater quantity of (novel) material. See Appendix K for further details.

It would be of great academic interest and clinical value for future research projects to explore which factors determine whether an IIOC offender follows a passive or direct approach to image access. Future studies, with much larger samples of IIOC offenders, could collect data regarding the methods they used retrieve material and the sophistication of the strategies they use to avoid detection, alongside data regarding aetiological reasons for access. With a sufficiently large sample size, inferential statistical analysis could be conducted which could test for a relationship between these factors as a whole. It may be that offenders who present with deficits across all risk domains, are more likely to adopt a progressively more direct offence approach.

Limitations

The current study suffers in the generalisability of its findings due to its small sample size. Small numbers of participants were recruited in light of the exploratory roles of the studies to identify areas appropriate for future investigation. Although smaller numbers were suited to the method of qualitative analysis used by the current study, it may be that other motivating factors for accessing IIOC, and methods used to access it, remain unexplored or undiscovered due to the limited numbers recruited.

The current study may also be limited by its reliance upon opportunity sampling. Participants were recruited from a population of IIOC-only offenders undertaking treatment, who had all been convicted for their offences. Such a sample may not be representative of IIOC-users as a whole, particularly when considering the significant estimated proportion of hidden IIOC offending whose online behaviour remains undetected. That is, using a convicted-only sample may not be appropriate to draw conclusions about the offending practices of online IIOC users as a large number of IIOC users are thought not to be convicted. It may be that many pertinent aetiological and technological offending factors have been overlooked which may be unique to un-convicted IIOC users, but which remain a clear focus for future investigation.

Greater insight is vital for the direction of future efficacious offender management strategies regarding the use of largely hidden mediums, such as the 'Darknet', in the perpetration of IIOC offending. Mansfield-Devine (2009) described the Darknet as an anonymised file sharing network, which uses non-standard Internet protocols and does not involve the use of IP addresses often relied upon by criminal justice agencies to identify offenders. By definition, if offenders are using avenues of image access which are more immune to detection, then these offenders are less likely to be identified and convicted, however, it is

their offending practices which would perhaps be most helpful to investigate in interview.

There remain clear methodological and legal difficulties recruiting an un-convicted offender sample, which continue to pose a barrier to this channel of research.

Some questions may be raised regarding the method of data treatment used in current study.

Although thematic analysis is content driven and is proposed to be theoretically neutral, there is remains the risk of subjective bias when assigning latent codes. The coder risks imposing a conceptually-skewed thematic hierarchy upon the data item. There is a possibility that the themes derived from data treatment were biased by what the coder (the current author) already knew of aetiological reasons for perpetrating a (contact) sexual offence. This was, however, compensated for by the development and use of a novel operationalised codebook by the coder, in addition to conducting interrater reliability checks and strictly adhering to the coding guidelines of Braun and Clarke (2006).

It should also be noted that different interviewers were used to collect data for the current study, which may have impacted upon the consistent quality of data generated between interviews. The risk that pertinent data may have remained unrecorded due to differences in interviewing style and approach was in part compensated for by the use of a standardised interview schedule and time spent by each interviewer building rapport with participants.

CONCLUSIONS

The generation of themes from IIOC-only offenders' accounts of their offence paths indicated a clear overlap in all four contact sexual offending risk domains (*emotion dysregulation, deviant sexual interest, unmet intimacy needs and cognitive distortions*). The presence of

shared factors of contact sexual offending risk amongst IIOC-only users may indicate these individuals pose an increased risk of perpetrating dual offences.

Only one offender disclosed pre-existing thoughts of perpetrating a contact sexual offence. According to the others' self-report, they largely fitted Elliott and Beech's (2009) *fantasy-only* and *periodically-prurient* offender type classifications, with no pre-existing interest. However, some evidence was found in support of Sullivan and Beech's (2004) *Escalation Theory*, in that participants described that their initial incidental access of IIOC contributed to the development of an overt deviant interest in minors, and an urge to access progressively more severe material. It is of concern that these urges may evolve into contact offending fantasies. It would be helpful, therefore, for future research to explore the accounts of dual offenders regarding the role using IIOC played in their urge to contact offend.

The results of this study also highlighted the important interaction between psychological reasons to offend and an offence-conducive environment, consistent with Ward and Beech's (2006) ITSO model of contact offending. Data themes indicated that IIOC offenders used the material to maladaptively manage stress generated by problematic and unfulfilling offline lifestyles. The entire offending cycle is understood within the context of an emotion (dys)regulation loop, which accounts for the reasons of first access and why attempts at abstinence failed.

A key focus for further research should be to investigate how to efficaciously treat offenders' reliance upon indecent material to manage stress. The next two chapters of this thesis explore this consideration. A small-scale exploratory empirical study was designed to examine whether IIOC-only offenders displayed an improvement in emotion regulation practices after engaging in a Mindfulness-based treatment programme. In order to appropriately measure for treatment change, a psychometric tool, the Emotion Control Questionnaire, Second Edition

(Rogers & Najarian, 1989), was selected for use as an outcome measure. Chapter 4 presents a critique of this tool; and Chapter 5 presents the exploratory treatment outcome study.

CHAPTER FOUR

The Emotion Control Questionnaire, Second Edition (ECQ2): Critique of a Psychometric Assessment

INTRODUCTION

One of the key aims of this thesis is to identify factors associated with online IIOC offending in order best inform offender assessment, treatment and management strategies. Chapter 3 presented a qualitative investigation of the accounts of IIOC-only offenders regarding their motivation to access indecent material. This resulted in the extraction of an overarching theme, which indicated offenders typically used IIOC as a tool to maladaptively regulate emotion. They described that the gratification they received from accessing images assisted them to reduce affective dysphoria, namely: stress generated by precipitating negative life events; boredom generated by unfulfilling lifestyles; isolation and sexual frustration caused by unfulfilling interpersonal relationships; depressive symptoms; escalating addictive urges; and dissonance caused by conflicting feelings of sexual arousal to the material, contrasted with shame, guilt and disgust generated by an awareness their behaviour was illegal or immoral. It was, therefore, suggested that further investigative effort should be applied to testing the efficacy of a treatment programme which aims to address deficits in emotion dysregulation amongst IIOC offenders, in the hope that it may ultimately reduce their recidivism risk.

In order to test whether IIOC-only offenders display fewer difficulties with emotion regulation after receiving treatment, a psychometric tool was identified which could be used as an outcome measure of pre- to post-treatment change. The tool selected for this purpose was the Emotion Control Questionnaire, Second Edition (ECQ2), developed by Roger and Najarian (1989). This chapter presents a review of the measure.

The ECQ2 is a 56-item self-report inventory designed to gauge a respondent's emotion control style to perceived sources of stress. The tool was derived from an earlier edition devised by Roger and Nesselhoever (1987) which explored the same psychological construct,

defined by the authors as “the tendency to inhibit the expression of emotional responses” (p. 527). The ECQ2 elicits scores on four scales of conceptually distinct methods of emotion control: (i) *rehearsal (rumination)*; (ii) *emotional inhibition*; (iii) *benign control* and; (iv) *aggression control*. Each scale is represented by 14 items, which respondents are required to dichotomously endorse as ‘true’ or ‘false’. Cumulative scores for each scale are used to distinguish the respondent’s dominant emotion control strategy, via ranked order and comparison with norm sample means.

In their conception of the original Emotion Control Questionnaire (ECQ), Roger and Nesselhoefer (1987) aimed to address the lack of a valid and reliable clinical tool which could be used to identify the presence of maladaptive emotion control styles. The authors postulated that certain control methods increase the risk of an individual experiencing prolonged symptoms of psychological and physical stress, which respectively expose them to associated ill health effects. The ECQ2 was produced in order to balance the number of items on each scale on the original ECQ and to adjust for the migration of items between scales following revised principal component analysis (Roger & Najarian, 1989).

In order to conduct a comprehensive review of the validity of the ECQ2, this chapter first examines associated academic literature regarding the construct of emotion control. Then, in order to review its statistical reliability, information is provided regarding the tool’s development. The respective scientific properties of the ECQ2’s reliability, validity and the appropriateness of its norm group are considered, and its clinical utility is discussed.

Background

Research evidence shows that there is a good conceptual basis for measuring emotion control styles to predict psycho-immunological stress symptoms (Roger & Najarian, 1989, 1998).

Ekman (2003) identified that emotions are multi-faceted. That is, when an emotion is experienced, a mental state arises without conscious effort, accompanied by physiological changes in autonomic functioning (hypothalamic-pituitary-adrenal activity), which subsequently inclines an individual to engage in affective or behavioural change (Gross, 1998). As emotions only incline an individual to act in a certain manner, rather than compelling them, emotion experiences are amenable to regulation (Gross & John, 1997). Individuals can employ a range of regulatory strategies on an unconscious to effortful continuum prior to, during or after an emotion has been generated (Gross & Thompson, 2007). This is typically in order to avoid aversive emotions, or engender or maintain positive emotions, when confronted with a source of stress (Tice & Wallace, 2000).

Individual differences occur in emotion response due to the subjective manner in which information is perceived and processed (Gross & John, 1997). Response tendencies are thought to have an enduring dispositional basis and they can be regarded as being adaptive or maladaptive depending on their long term outcomes (Aldao, Nolen-Hoeksema, & Schweitzer, 2010; Gross & Thompson, 2007). Successful regulation has been associated with good health, improved relationships and work performance (Rottenberg & Gross, 2003).

Conversely, poor emotion response is associated with diverse psychopathologies (Watson & Sinha, 2008), including major depressive disorder (Nolen-Hoeksema, Stice, Wade, & Bohon, 2007), borderline personality disorder (Linehan, 1993), anxiety disorders (Davidson, 2002), post-traumatic stress, impulsive conduct disorders and bipolar disorder (Johnson, 2005).

A meta-analysis, authored by Aldao et al. (2010), reviewed 241 effect sizes of 114 studies, examining the relationship between different emotion regulation strategies and psychopathology, in order to deem which were the most effective. As Field (2005) explained, effect sizes are an objective and standardised measure of the magnitude of the observed

difference between two groups. They are calculated by dividing the difference between two mean scores (such as pre- and post-treatment) by the average spread of scores. This offers insight into the strength of an observed effect. With regard to this standard metric, Cohen (1988) proposed a general guideline that a 0.20 represents a small effect size, 0.50 a medium effect, and 0.80 a large effect size. Aldao et al.'s (2010) meta-analysis found the medium to large effect sizes of the adaptive role of three emotion regulation strategies to reduce self- and peer-reported levels of stress and anxiety. These were: *reappraisal* of stress sources, task-orientated *problem-solving* and mindfulness-based *acceptance*. Conversely, three emotion strategies were found have a deleterious effects on psychological well-being, with equally strong effect sizes. These comprised: *rumination*, *suppression* and *avoidance*. As the ECQ2 measures the extent to which an individual employs these emotion regulation strategies, there is considerable worth in it to identify problematic coping amongst a population with psychopathology.

Rumination, or pre-occupied rehearsal, refers to enduring reflection on negative events (Roger & Najarian, 1998). It has been suggested that it impairs adaptive cognitive adjustment by preventing an individual from assimilating information about the subject into their schema (Lok & Bishop, 1999; Pennebaker, 1989). Suppression and avoidance are conceptually linked to *experiential avoidance* whereby the individual engages in deliberate attempts to control unwanted thoughts or sensations (Watson & Sinha, 2008). When this emotion control style is employed rigidly and inflexibly, it can cause attenuated positive emotional experience and diminished contact with present experiences (Kashdan, Barrios, Forsyth, & Steger, 2006).

Academic studies have reliably found strong relationships between the use of rumination and emotion inhibitory control styles and physiological ill effects, indicating the conceptual basis

of the ECQ2 is empirically sound. This centrally involves the role of the hypothalamic pituitary-adrenal axis (Gillespie, Mitchell, Fisher, & Beech, 2012; Roger & Najarian, 1998). Hare (1966) reported that those who engaged in repression of negative thoughts measured greater autonomic arousal after a stressful event. Similarly, Urry et al. (2006) found accentuated variation in stress-related cortisol levels when individuals employed suppression control techniques whilst undergoing an fMRI examination. This is consistent with neurological results found by Ochsner and Gross (2005; see Chapter 5 for a further review).

The four methods of emotion control which the ECQ2 examines can be considered to be highly relevant to clinicians interested in identifying risk factors of a client's psychological or physical pathology. Roger, de la Banda, Lee and Olason (2001) provided a full explanation of the association between the *rehearsal* scale of the ECQ2 and emotional rumination via preoccupation with emotional upset. Validation studies conducted by Roger and Jamieson (1988), and Roger and Najarian (1998), respectively, found that high scorers on the rumination scale had greater delayed heart rate recovery following a stressful event, and that nurses had significantly greater levels of urinary-free cortisol immediately after an important exam and up to one month later.

The second factor measured by the ECQ2, *emotional inhibition* (EI), has been defined as relating to experiential avoidance via the suppression and avoidance of emotion. Lok and Bishop (1999) explained that EI impedes the adaptive processing of negative stress-related information and so it is likely to remain in conscious experience for a protracted period, ultimately intensifying the stressful experience. Wegner, Broome and Blumberg (1997) found supporting evidence of the negative physiological effects of EI amongst participants who attempted to suppress their reaction to aversive stimuli as they exhibited increased electro-

dermal responses. This was related to their subsequent prolonged experience of physical stress symptoms.

The final two scales of the ECQ2, *aggression control* (AC) and *benign control* (BC), relate to hostility and general impulsivity. Both are considered characteristic of a number of psychopathologies, such as Anti-Social Personality Disorder, and Conduct Disorder, and have been associated with sexual offending risk and poor coping behaviours, such as substance abuse (Endler & Parker, 1990; Thornton, 2002). The AC scale is designed to assess the degree to which the respondent shows restraint in the ill-feeling they hold towards another, whilst BC explores the degree to which the respondent considers the consequences of their actions (Lok & Bishop, 1999). Roger and Najarian (1989) hoped ECQ2 profiles could be used to discriminate deficient emotion control styles amongst respondents in order to inform their case management approach.

Test construction

The majority of items on the original ECQ were derived from a questionnaire which invited a relatively small sample of 54 students at a British university summer school to list up to five emotional experiences they could recall, and to describe their responses to these events (see later in this chapter for a review of the appropriateness of the norm groups used to in the construction of the tool). Roger and Nesshoever (1987) reported that the other items used to comprise the initial ECQ item pool were adapted from existing scales. The authors stated that duplicate and idiosyncratic responses were removed, leaving a preliminary 61-item scale was completed by 184 undergraduate. Response frequencies indicated eight items with greater than 80% endorsement of one or the other response and so they were omitted. The resulting 53-item scale was administered to 328 undergraduates and the data were analysed by principal factoring. The 40 items left over from a scree test loaded to four factors by

orthogonal rotation, using a criterion of 0.30. Oblique rotation analysis did not alter the factor structure. The four factors were labelled as rehearsal, EI, AC and BC. Nine items loaded on to EI and BC and eleven on to rehearsal and AC.

Roger and Najarian (1989) revised the original ECQ two years after its conception as the ECQ2. They explained this was necessary due to the imbalance of items on the four scales and in order to expand on the sample of emotion control behaviour. All of the original ECQ items were included in a new item pool, and 34 new items were generated via the same questionnaire method employed by Roger and Nesshoever (1987) with a convenience sample of 63 British university undergraduates and 41 members of the general public. Six of these items were omitted after frequency analysis with 80% either way endorsement. The 68 items were subject to principal factoring which extracted 59 items, again, loading to four factors by orthogonal rotation. Three items which had only marginally loaded were omitted, which left 14 items loaded to each subscale. The final version of the ECQ2 is presented in Appendix M, with a note of which scale each item loads to. A copy of the table of the 56 item loadings to the four factors, taken from Roger and Najarian (1989), is presented in Appendix N.

Notably, in their analysis of the ECQ2, Roger and Najarian (1989) reported that three of the items from the original ECQ measure migrated to new subscales (items 4, 36 and 24) in the second edition. Further, they identified that a modest, but significant correlation was found between two of the ECQ2 subscales ($r = 0.39$, $df = 59$, $p < 0.01$). A copy of the norm group mean scores and factorial correlations is presented in Appendix O.

Administration and scoring

The administration of the ECQ2 requires respondents to reflect on their engagement in each of the behavioural and cognitive processes listed as items on the measure, representative of

one of the respective four means of emotion control. Respective scale scores are summed and compared against each other, and to norm group means, to indicate the highest rank. This is interpreted as being the respondent's dominant emotion control style.

The characteristics of a good test

Both Field (2009), and Kline (1986), reported that for a psychological measure to be justly described as a good it must elicit at least interval scale data, it must be consistently interpretable across time and context, it must actually measure the targeted construct and it must have appropriate norms. The current paper shall now consider how well the ECQ2 meets these criteria.

Level of measurement

The interpretative utility of the ECQ2 is limited by the fact that the measure does not elicit interval level data. Unlike other psychometric tools, the ECQ2 lacks any form of standardised metric (for instance, T scores) to which respondents' raw scores can be converted and statistically compared via parametric inferential analysis. For example, a respondent may complete the measure and gain a score of '8' on the Rehearsal scale and '2' on the Emotion Inhibition scale. This is not to say that they have engaged in four times the amount of Rehearsal-related activity than Emotionally Inhibiting action. Nor does a score of '0' on any of the scales suggest that the respondent has never employed that control strategy. Rather, ECQ2 profiles identify a rank of which emotion control style the respondent more often recognised as being present in themselves.

Roger and Najarian (1989) provide norm group means to allow for some generalised reference to the respondent's relationship to a normative population. However, without a more sophisticated level of data, inferences drawn from the results of the ECQ2 may be better used to identify preliminary areas for further clinical investigation as potential risk indicators, rather than being diagnostic.

Reliability: Internal

For a measure to be considered to be internally reliable, items must be able to show to relate to one another within each respective scale, i.e. they associate with one another and measure the same underlying construct. The Kuder-Richardson Formula 20 (KR-20) is a measure of internal consistency for measures with dichotomous choices comparable to Cronbach's alpha for continuous measures (Field, 2009). Cortina (1993) suggests that a coefficient of <0.5 is unacceptable, <0.6 is poor, <0.7 is questionable, <0.8 is acceptable, <0.9 is good and that 0.9 or greater is excellent.

According to the above criteria, the ECQ2 has demonstrated acceptable internal reliability. On the original scale, Roger and Neshoever (1987) tested the KR-20 consistency and reported that the scale as a whole had appropriately low internal consistency, accounted for by its multi-dimensional orthogonal structure. However, the respective subscale coefficients ranged from 0.77 to 0.86. These were similarly substantial and satisfactory on the ECQ2 as the scales obtained the following coefficients from the responses of the total sample of 244 participants: Rehearsal, $\alpha = 0.86$; EI, $\alpha = 0.77$; BC, $\alpha = 0.79$; and AC, $\alpha = 0.81$.

The internal reliability of the ECQ2 is supported by other studies which used the tool. Lok and Bishop (1999) administered the measure upon 327 Singapore nationals. Coefficients

were found to be somewhat lower than in the original norm samples, but still largely in the acceptable range (Rehearsal $\alpha = 0.73$; EI, $\alpha = 0.64$; BC, $\alpha = 0.70$; and AC, $\alpha = 0.76$). This coefficient range was replicated by Gross and John (1997), who administered the measure on a sample of 1,379 university undergraduates (Rehearsal $\alpha = 0.71$; EI, $\alpha = 0.61$; BC, $\alpha = 0.72$; and AC, $\alpha = 0.76$). The results of the latter two studies indicate that the weakest consistency was on the EI scale. As discussed above, this is a broad concept relating to multi-faceted experiential avoidance. It may be that the ECQ2 suffers in its Emotional Inhibition scale consistency by not distinguishing between specific suppression and avoidant control techniques.

Reliability: Test-retest

Kline (1986) explained that this factor relates to how consistently a test is able to measure the presence of its target in a respondent across two time periods if there was no other mediating factor. This is measured using simple correlational analysis (Pearson's r). Roger and Najarian (1989) reported substantial correlational coefficients for the ECQ2 scales when it was completed by 86 undergraduates at a British university over a seven week interval: Rehearsal, $r = 0.86$; EI, $r = 0.77$; BC, $r = 0.79$ and AC, $r = 0.81$. This is comparable to similar coefficients, ranging from $r = 0.75$ - 0.85 for the four scales, found by Watson and Sinha (2008) when they administered the ECQ to 422 undergraduates.

The above results offer strong evidence for the reliability of the ECQ2 in consistently identifying an individual's enduring emotion control style. Roger and Najarian's (1989) proposed that the ECQ2 be used to examine dispositional response tendencies. The findings suggest that the measure has clear clinical utility as it can be used to reliably identify the unchanging response styles present in a number of specific psychopathologies, such as

borderline personality disorder and impulsive conduct disorders (Davidson, 2002; Linehan, 1993).

Validity: Face

The concept of face validity regards how well a tool intuitively appears to relate its conceptual target. A *prima facie* examination of ECQ2 items suggests a relatively accurate representation of their parent scales. For instance, items 22 and 31 on the Rehearsal scale (respectively, “I often find myself thinking over and over about things that have made me angry,” and “If I see or hear about an accident, I find myself thinking about something similar happening to me or to people close to me”) appear to very well encapsulate the process of becoming cognitively preoccupied with a potential source of stress. Similarly, on the EI scale, item 20 (“I seldom show how I feel about things”) appears to well represent the engagement in inhibitory emotion control. Likewise, for example, item 36 on the AC scale (“I lose my temper quickly”) and item 45 on the BC scale (“I can’t stand having to wait for anything”) appear to offer insight into the respondent’s engagement in the underlying concepts of controlling hostile and impulsive feelings.

It may be thought, however, that some of the items on the ECQ2 tend to relate more to the controlling the behavioural expression of emotions rather than whether the respondent is cognitively engaging in rehearsal, EI, BC or AC. This may be problematic for the measure as the psycho-physiological evidence supporting the ECQ2 relates to the cognitive engagement in these control styles, rather than behavioural tendencies. For instance, item 19 on the AC scale (“If someone were to hit me, I would hit back”) regards whether the respondent would control themselves from behaviourally striking someone, rather whether they attempt to internally control their aggressive feelings. Similarly, item 50 on the EI scale (“I usually manage to remain outwardly calm, even though I may be churned up inside”) may be

considered more representative of controlling the outward expression of emotions rather than trying to suppress or avoid the emotional experience. As such, the scales may be better labelled to incorporate emotional expressivity or coping rather than solely cognitive emotion control.

The utility of the ECQ2 is not likely to be confounded, however, by the possible conceptual overlap of behavioural coping and emotion control as studies have identified significant relationships between the two. Boekaerts (2002) initially discussed that emotion control is likely to be related to coping due to its buffering effect. Watson and Sinha (2008) found significant relationships between the use of rehearsal and emotion-focused coping, when administering the ECQ2 and Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1990) in those presenting with depressive symptoms, phobic anxiety and somatization. Cluster analysis of the four ECQ2 factors and the CISS coping strategies (task-, emotion- and avoidance-orientated) suggested a continuum from EI to emotional expression, with task-orientated coping, BC and AC in one cluster in between, and distraction/avoidance in another. The ECQ2 can is still, therefore, informative as it gives insight to broad behavioural or cognitive emotion regulation indicative of potential pathology, if not exclusive cognitive emotion control.

Validity: Content

With regard to the ECQ2's encapsulation of all aspects of emotion control strategies, the tool has been found to have a relatively robust basis, however, there are aspects which the measure does not directly address, and which may be of value for an assessing clinician to consider. As the ECQ2 is ultimately interested in physiological symptoms associated with emotion control styles, the inclusion of some items pertaining to stress-related arousal which accompany the respondent's experience of response tendencies would be beneficial.

Whilst the EI and Rehearsal scales of the ECQ2 are positioned to capture the majority of inwardly focused emotion control tendencies, the measure may be thought to overlook other strategies. For instance, it may be of worth to include a scale of active emotion expressivity. Although Gross and John (1997) found a significant correlation between low ECQ2 EI scores and high scores on all scales of the Berkeley Expressivity Questionnaire (BEQ; Gross & John, 1995), a dispositional tendency to actively externally manage emotions is perhaps not best assumed by a respondent attaining low scores on all ECQ2 scales. Indeed, there may be some question regarding how profiles with universally low scores should be interpreted – are they indicative of ‘emotion uncontrollability’ or do imply that the respondent uses adaptive emotion control styles which the ECQ2 does not investigate?

It may, therefore, be worth including items relating to the use of cognitive reappraisal and problem-solving thinking styles as emotion control responses. This would help a clinician discriminate between the absence of maladaptive emotion control styles and the presence of adaptive techniques. However, by virtue of its intended clinical use the ECQ2 would typically only be administered to look at emotion control tendencies in an at risk population. In its current status, the ECQ2 does well to examine rumination and inhibition which are reliably found to be the most problematic strategies. The exploration of possible adaptive styles may only provide an interesting adjunct to the measure.

Validity: Construct

The face validity of the ECQ2 indicates that the items do tend to relate to their parent scales, even if that includes behavioural rather than exclusive cognitive emotion-based tendencies. However, some thought should be given to how well the behavioural focus relates to the overarching construct of emotion control, i.e. its construct validity (Kline, 1986).

The items on the BC scale, and AC scale to a lesser extent, may be thought to be more indicative of dispositional tendencies to engage in impulsive or hostile acts rather than strategies to control emotion. For example, item 5 on the BC scale (“I often take chances crossing the road”) and item 26 on the AC scale (“If someone says something stupid, I tell them so”). The focus of these scales appears to be towards constructs of general dispositional impulsivity or anti-sociality which would not typically be thought to be a specific emotion control style. Items may be better phrased towards gauging to whether the respondent attempts to cognitively manage feelings of aggression or trying to reflect on the consequences of their potential desire to act impulsively. This could be problematic for the conceptual unity of the ECQ2 as a measure of the construct of emotion control as studies have demonstrated the factorial independence of poor emotion regulation and impulsivity (e.g. Thornton, 2002).

However, as noted above, the ECQ2 can still be helpful to clinicians as the AC and BC scales give insight to impulsive and antisocial tendencies in addition to rehearsal and EI scores indicating problematic emotion control, all of which are suggestive of pathology and warrant further clinical attention. Further, the rehearsal and EI scales on the measure have been found to have good concurrent validity with other scales, suggestive that they accurately examine their underlying emotion control constructs.

Validity: Concurrent

This aspect of test validation concerns whether the tool correlates with others which have been designed to measure the same construct (Kline, 1986). The ECQ2 may be thought highly likely to correlate with associated scales as Roger and Najarian (1989) reported that some of the items included on it were taken from existing measures. However, the authors

do not go on to state from which measures the items were taken or what they were originally intended to gauge.

When originally developing the ECQ, Roger and Nesshoever (1987) authors stated there were few other tools designed to investigate emotion control styles. However, data indicated that it correlated well with those that did exist at the time and that it has since stood up well against more recent measures. Roger and Najarian (1989) reported that there was a significant positive correlation between ECQ2 rehearsal scores and the Neuroticism scale of the Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975; $r = 0.57$, $p < 0.01$) and the Anxiety Trait scale of the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Luchene, 1970; $r = 0.37$, $p < 0.01$); there was a significant negative correlation between ECQ2 EI scores and Extraversion scores of the EPQ ($r = 0.37$, $p < 0.01$) and the Interpersonal Control scale of the Spheres of Control Questionnaire (SOCQ; Paulhus, 1983; $r = 0.56$, $p < 0.01$); and significant negative correlations were found between the ECQ2 BC scale scores and Psychoticism on the EPQ ($r = 0.27$, $p < 0.05$) and the ECQ2 AC scale scores and Assaultativeness scores on the Buss-Durkee hostility inventory (Buss & Durkee, 1957; $r = 0.65$, $p < 0.01$).

The results, above, show clear empirical grounding of ECQ2 items and their conceptual counterparts on other measures. For instance, it is logically coherent that those who are emotionally ruminative may score highly on measures of neuroticism, similarly those that inhibit their emotions may be more introverted and that those who tend to demonstrate impulsivity or aggression in their emotion management may engage in more impulsive and violent behaviour.

In a later study, Roger and Schalpas (1996) found significant positive correlations between ECQ2 Rehearsal scores and Depression scale scores on the Repression-Sensitisation Scale

(R-S Scale; Byrne, Barry, & Nelson, 1963); a significant positive correlation between ECQ2 BC scores and R-S Scale Trust scores; and a significant negative relationship between ECQ2 EI scores and Extraversion on the R-S Scale. Further, when investigating the relationship between ECQ2 subscales and emotional expressivity, Gross and John (1997) found a significant negative correlation with EI and each of the expressivity subscales on the BEQ (Gross & John, 1995). Again, the common conceptual underpinnings of these subscale relationships is easy to recognise.

Validity: Predictive

The ECQ2 does appear to measure its intended target well. For instance, Lok and Bishop (1999) found that the ECQ2 Rehearsal, EI and BC scales significantly correlated with measures of self-reported stress measured which was measured at different times; as did ECQ2 BC and Rehearsal scale scores with objectively measured health complaints. To this extent, the tool may be considered to have good predictive validity. Further, the ECQ2 has shown evidence of being able to predict stress-related physiological outcomes, which it was designed to identify, in a longitudinal study by Roger and Najarian (1998). The authors found a significant high positive correlation between the use of ECQ2-measured Rehearsal at the time of an exam amongst 51 student nurses and raised urinary-free cortisol levels, associated with prolonged experience of stress, three weeks later. This shows evidence of predictive validity of the measure.

However, ECQ2 validation studies have typically tended to be cross-sectional comparisons between sample subgroups rather than longitudinal, as such this aspect of the ECQ2 is relatively unexplored. Due to the enduring aspect of the dispositional response tendencies which the ECQ2 measures, however, it is expected these would be unchanged amongst a

sample and the correlations found in cross-sectional studies would be stable over time.

More research into this area would be insightful.

Validity: Discriminant

This concept relates to the ability of the measure to distinguish between discrete statistically and theoretically independent concepts. The four factors extracted from items on the ECQ2 were orthogonal to one another apart from the AC and BC scales, which were found to have a modest and significant correlation ($r = 0.30$, $p < 0.01$; Roger & Najarian, 1989). This suggests that the two scales are associated with a common construct. Roger et al. (2001) acknowledge this, suggesting that the two scales broadly relate to a general extraversion constellation. In effect, this means that a high scorer on one scale is likely to score highly on the other and so considering the scales separately may be thought to lack any value.

However, in a study conducted by McDougall, Venables and Roger (1991), the AC and BC scale scores did discriminate between two groups of young offenders, one of which presented with staff-reported higher violent risk. As a likely result of the reference to physical violence of ECQ2 AC items, there was a significant positive correlation between high scores on the AC scale and the level of risk the offenders were thought to pose by the detention staff.

As discussed above, the AC and BC scales are more indicative of general impulsivity and poor conduct control. However, although they may not necessarily be representative of exclusive discrete cognitive emotional control styles, their measure is still informative as it can guide a clinician about a respondent's risk of acting out.

Limitations

One of the primary limitations of the ECQ2 is that it lacks a formal manual regarding its administration, scoring and interpretation. Administrators need to refer to Roger and Najarian's (1989) study in order to gain an understanding of how to utilise it. As the measure was primarily intended to identify individuals at risk of psycho- and physical pathology, clinicians may be reticent to adopt the ECQ2 as it lacks objective standard and operationalized user instructions. This is a clear short-coming as it is, therefore, less likely to be used to inform case management plans, which is the very context it was designed to be employed in. As such, the measure lacks commercial credibility and is at risk of being used inappropriately.

Appropriateness of the ECQ2 norm group

The majority of the items included in the original ECQ were derived from answers given by a sample of 54 students of the British Open University (25 male and 29 female) who were prompted to reflect on their reaction to emotive experiences. The number of items included on the measure was refined after it was administered to 184 York University and Open University undergraduates (89 males and 95 females). For the development of the ECQ2, new items were generated by a survey asking 63 undergraduate students at a University of York Open Day and a smaller sample of 41 members of the general public at the same open day. The final version of the scale was then administered to a sample of 244 University of York undergraduates (111 males, mean age = 20.0yrs, SD = 4.0; 133 females, mean age = 21.33yrs, SD = 6.37) to elicit norm group means (see Table 6, Chapter 5).

It is possible that the emotion control tendencies used by a convenience sample of a relatively small group of undergraduates may not be wholly representative of the diverse

range of control styles of either a broad normative or clinical population. This may be of some concern as the ECQ2 was designed to identify the use of maladaptive emotion response styles which relate to psycho- and physiological pathologies. Had the measure's initial pool of items been derived from a broader age range of the normative population or specific clinical samples, then other emotion control styles may have been identified.

That is not to say the ECQ2 is without relevance with regard to generalizability. By reporting norm group means, Roger and Najarian (1989) allow clinicians some degree of gauge of their respondents against a normative sample. Hence, best practice when using the scale should be done in conjunction with a clinical interview to identify other or preferred emotion control tendencies.

It should be noted that different cultural samples have elicited different factor structures on the ECQ2. Roger et al. (2001) administered the measure amongst samples of undergraduates in England ($n = 244$), Korea ($n = 114$) and Spain ($n = 325$). Results of an exploratory factor analysis indicated the robust presence of the rehearsal, EI and AC scales in the English and Spanish samples, however, only half of the items on the BC scales were shared between the two groups. Roger et al. (2001) also state that the rumination and EI scales were consistent in the Korean sample, maintaining eight of the original items on each. However, when completed by the Korean sample, five of the ECQ2 AC items significantly loaded to the EI factor, which the authors suggest is an artefact of Eastern-Western differences in the perception of the inhibition of aggression and the inhibition of general emotion. Therefore, when interpreting ECQ2 profiles in its current factorial format, the use of the measure should be confined to European or Western samples.

CONCLUSIONS

The current review has identified a number of theoretical and empirical factors which endorse the clinical use of the ECQ2. However, there are also specific considerations which should be made when administering the tool and interpreting resultant profiles.

A review of associated academic literature indicates that there is a reliable relationship between the employment of ruminative and inhibitory emotion control styles, and the prolonged experience of psychological and physical stress-related symptoms (Gillespie et al., 2012; Hare, 1966; Ochsner & Gross, 2005; Roger & Najarian, 1998; Urry et al., 2006). Due to the symptomatic presence of these control styles in specific psycho- and physiological pathologies (Davidson, 2002; Nolen-Hoeksema et al., 2007; Johnson, 2005; Linehan, 1993; Watson & Sinha, 2008), the ECQ2 is a valuable measure to inform case management strategies of those at risk. Although the objectivity of the measure suffers from the lack of a formal administrative and interpretative manual, and does not produce interval level data, it does not lack clinical relevance. For example, if a respondent endorses items suggesting they are prone to becoming preoccupied by rehearsal of negative emotion experiences rather than using any other means of emotion control, then this warrants further clinical attention.

With regard to the ECQ2's statistical strength, the majority of reliability analyses have elicited at least acceptable to good internal consistency with the KR-20 formula and test-retest analysis, suggesting that the tool will consistently identify the presence of the same underpinning construct. In relation to the ECQ2's face and construct validity, it was noted that the AC and BC scales may be considered to represent a more general anti-social or impulsive behavioural disposition rather than the use of specific emotion control styles. However, as these are factors which have also been found to reliably relate to

psychopathology, their inclusion on the scale is highly clinically informative for tailoring potential treatment packages.

The ECQ2 may be considered to be limited by its lack of a scale of adaptive methods of emotion control, such as cognitive reappraisal or constructive thinking patterns (Aldao et al., 2010). However, this may be considered moot as the tool was designed to test an at risk population. If it is thought that a respondent employs any other potentially adaptive emotion control styles or strategies which were not identified by the student norm group, then these should be actively investigated by an assessing clinician in interview, to which best practice dictates a psychometric should typically only form an adjunct. As such, the ECQ2 has demonstrated its worth to be included in many clinical psychometric batteries.

The conclusions drawn from this critique support the use of the ECQ2 in assessing the presence of maladaptive emotion regulation strategies in the cognitive and behavioural patterns of users of online indecent images of children (IIOC). It has been shown to be valid and reliable at detecting styles of dyscontrol which IIOC-only offenders reported using in the qualitative study presented in Chapter 3 (Study 1). The majority of offenders in Study 1 reported feeling preoccupied by high levels of stress and depressive symptoms, low self-esteem, shame, and disgust, amongst other negative feelings, which ultimately led to their offending. It may be that the presence of this maladaptive rumination style is detectable via the Rehearsal scale of the ECQ2.

Participants in Study 1 (Chapter 3) also described their use of IIOC itself as a form of cognitive and behavioural avoidance/distraction from their negative affective experiences, which is likely to be detectable via the EI scale of the ECQ2. Further, IIOC users in Study 1 discussed their offending was, in part, attributable to their dispositional impulsivity. They spoke of having offended without considering the consequences of their actions due at the

time of offending. Such traits are likely to be measurable by the BC scale. For these reasons, the ECQ2 was selected to measure change in the emotion (dys)regulation style of a sample of IIOC-only users, pre- and post-treatment, as part of a small-scale empirical study presented in Chapter 5.

CHAPTER FIVE

The Treatment of Emotion Dysregulation Amongst HOC Offenders Using Biofeedback: A Small-scale Exploratory Study

ABSTRACT

Aim

The results of Study 1 indicated IIOC-only offenders use material as a tool to maladaptively manage affective dysphoria. This study aimed to review the efficacy of a Mindfulness-based treatment package which focused on addressing emotion regulation deficits amongst IIOC-only offenders.

Method

A comparative statistical exploration was conducted of a small amount of psychometric data (the ECQ2) relating to the emotion regulation characteristics of two groups of IIOC users (N = 8), looking at clinical significance and effect sizes. One group completed an eight-week training course in the use of a Mindfulness-based treatment package; whereas an equally-sized control group maintained generic contact (non-Mindfulness-based) with therapeutic services during this time.

Results

IIOC offenders' scores on three of the four subscales of emotion regulation (Rehearsal, Emotional Inhibition and Benign Control) were all in the normative range pre- and post-treatment. The group of offenders who received training displayed above-average Aggression Control scores at both times of psychometric testing. A *post-hoc* power analysis was conducted, which found, as expected, the study was under-powered due to its small sample size.

Conclusions

The null result found in this study was attributed to a sampling artefact based on the very small size of offender data collected, and due to the confounding effect of participants in the Control Group having received some form of treatment. However, the findings of the study are thought to offer sufficient interest to warrant further investigation on a larger scale. An *a priori* power calculation, based on the small effect sizes found, suggested that a larger scale replication would require 50-140 participants per group to achieve sufficient statistical significance.

INTRODUCTION

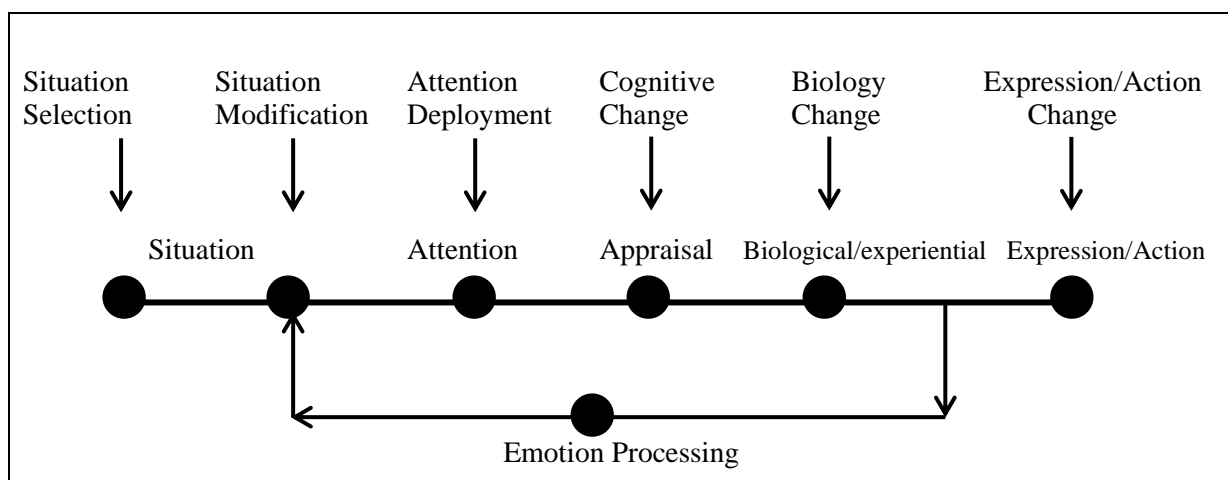
Study 1 (presented in Chapter 3) comprised a thematic analysis of the accounts of sexual offenders who access indecent images of children online (IIOC), regarding reasons for their offending behaviour. A prevalent theme extracted from the data indicated that offenders experienced affective dysphoria, such as stress and low mood, in the general lead up to their initial offence, and in the acute period immediately before accessing images. Similar themes emerged with regard to the maintenance period of offending, which indicated that offenders continued to experience problematic patterns of emotional distress, which perpetuated their IIOC use. For instance, participants described suffering a degree of cognitive dissonance in reaction to accessing indecent material. They disclosed that offending caused them contrasting emotions of disgust, shame and guilt, which deterred them from offending, in conflict with feelings of excitement and sexual gratification which prompted them to continue.

The current author used the data collected in Study 1 to create a tentative model of precipitating and perpetuating factors of IIOC use (see Figure 5, Chapter 3), viewed from the perspective of emotion regulation theory. The model suggested offenders accessed images in order to try and control negative emotions, by engaging in a behaviour which they knew would induce positive feelings. The pattern of offending was as follows: (i) IIOC users experienced emotional dysphoria; (ii) they accessed IIOC to distract themselves from this, and induce positive feelings; (iii) using IIOC offered them short term satisfaction but longer term emotional distress; (iv) they re-accessed IIOC to try and reduce their compound dysphoria, and; (v) the cycle was reinforced by increasing psychological dependence upon IIOC. This is consistent with the findings of Middleton, Elliott, Mandeville-Norden and

Beech (2006) who found 33% (n = 14) of IIOC offenders exhibited primary deficits in the emotion dysregulation pathway of IIOC use.

The emotion regulation model of IIOC use, proposed by the current author, was derived from Gross's (1998) theoretical framework of affect control, adapted by Linehan, Bohus and Lynch (2007; see Figure 6). Some consideration will now be given to the theory of emotion regulation, in order to identify how treatment packages for IIOC users could be adapted to reduce offenders' reliance upon indecent material as a means to control mood.

Figure 6. Linehan et al.'s (2007) Extended Model of Emotion Regulation



Emotion regulation refers to a continuum of automatic to conscious cognitive and/or behavioural actions used to decrease, maintain, or increase an emotion or aspects of it (Werner & Gross, 2010). Typically, it aims to reduce negative feelings, but it can also include efforts to intensify positive emotions. The ultimate goal is to achieve a balance of being able to express one's emotional experience and appropriately manage factors which contribute to how the emotion was generated and how it is expressed (Greenberg & Paivio, 1997). In the context of Linehan et al.'s (2007) model, this means one adapts their situational environment to surround themselves with predominantly positive emotion-inducing cues, which they then focus their attention or interpret in a positive manner. The final stage of emotion regulation

occurs once an emotion has already been generated, and the individual seeks to modulate this by engaging in further actions to alter their feelings (Gottman & Katz, 1990).

Emotion dysregulation occurs when an individual engages in cognitive or behavioural strategies to simply hide or avoid negative emotions, often by distracting themselves with positive emotion-inducing behaviours (Linehan, 1993). In the case of the offenders interviewed in Study 1, this involved accessing IIOC to generate positive feelings (such as arousal and sexual gratification) in order to distract themselves from negative feelings, such as low mood, stress, or emotional loneliness. Emotion regulation theory stipulates that emotion avoidance or distraction techniques, such as these, are ineffectual at resolving emotional dysphoria in the long term as the underlying negative feelings remain present and unregulated (Werner & Gross, 2010). This suggests that until the IIOC user learns how to adaptively regulate their emotional dysphoria, they remain at an elevated risk of further offending.

Addressing emotion dysregulation amongst sexual offenders is a key treatment goal as this group represents a more complex case for intervention due to the pervasive impact of these difficulties across multiple domains of their lives (Cortoni, 2009). Studies have repeatedly found a relationship between characteristics of poor emotion regulation as a pre-cursor to sexual offending and broader antisocial behaviour (Thornton, 2012; Ward & Hudson, 2000). Treatment strategies to address poor emotion regulation rely upon evidence of the interaction between neurological factors which underpin emotional dysphoria and behavioural efforts to control this.

The bio-psychological basis for treating emotion dysregulation

A growing evidence base suggests there is a neurological basis for difficulties regulating emotions (Koerner & Dimeff, 2007; van Dijk; 2012). Cowdry, Pickar and Davies (1985) reported data that individuals who displayed greater emotional vulnerability were found to have a lower activation threshold in areas of the limbic system than a normative sample. That is, individuals who reported greater *emotional intensity* and *sensitivity* to emotive and neutral stimuli than normative peers, showed a quicker activation of key structures in the central nervous system, alongside a slower return to baseline of affective experience.

An extensive review conducted by Gillespie, Mitchell, Fisher and Beech (2012), comprehensively outlined the underlying neural correlates associated with deficient emotion regulation. They reported that Davidson (2002) found a direct relationship between increased activity in the amygdala and anxiety and mood disorders, indicative of self-regulation difficulties. Conversely, Urry et al. (2006) found that increased activity in the prefrontal cortex was associated with decreased amygdala activity, and when employing adaptive emotion regulation techniques. Gillespie et al. (2012) consequently inferred that prefrontal control over lower level amygdaloid activity plays an instrumental role in adaptively coping with aversive stimuli in an adaptive manner. Those with disturbed emotion regulation may lack such prefrontal control.

Rumination upon one's negative affective experience can be recognised as a maladaptive emotion regulation strategy as it does not involve any effort to counteract amygdaloid activity via prefrontal engagement. Although these findings need to be expanded upon in further research, several studies have shown the effectiveness of behavioural techniques, impacting upon neurological activity, which have been associated with improvements in emotion control.

Affect labelling has been shown to be an effective strategy in managing negative emotional experiences (Linehan, 1993). It involves encouraging individuals who are experiencing emotional distress to talk about how they feel, and it has been found to limit the impact of the negative feelings, offering support for talking therapies as a whole (Lieberman, Hariri, Jarcho, Eisenberger, & Bookheimer, 2005). Hariri, Bookheimer and Mazziotta (2000) found that asking participants to verbally label the negative emotions displayed by characters in evocative pictorial scenarios, resulted in lower level amygdala activity than participants who were asked to only perceptually process the presented material. Supporting evidence was offered by Lieberman et al. (2007), who found that affect labelling resulted in less activity in the amygdala and other limbic regions in response to negative emotional images than other forms of encoding. The decreased amygdaloid activity was inversely correlated with increased activity in the right ventrolateral prefrontal cortex, the area reported by Gillespie et al. (2012) to be involved in the conscious management of affective reactions.

In addition to affect labelling, therapeutic techniques designed to address poor emotion regulation include other acceptance-based cognitive skills of Mindfulness, which have demonstrated their efficacy at a biological level (van Dijk, 2012). Mindfulness works on the premise that encouraging an individual to focus their cognitive attention solely on their current affective and sensory experience in the moment, provides them with less cognitive availability to experience distress generated by dwelling on negative thinking patterns and being anxious about the future (Wilkinson-Tough, Bocci, Thorne, & Herlihy, 2010). The concept of Mindfulness reducing affective dysphoria is supported by the findings of studies regarding *Somatic Marker Theory* (Damasio, 1996). This suggests high emotion-laden thoughts (whether positive or negative) attract more cognitive attention, resulting in rumination, emotional preoccupation and a greater cognitive burden (Bechara & Damasio,

2005). Mindfulness manages this load by prompting the individual to acknowledge their experience without any additional effort to try and suppress or avoid the respective thoughts.

Linehan (1993) suggested that mindfulness to current emotions allows exposure to the distressing feelings without the association of the negative consequences, thereby preventing them from stimulating secondary negative emotions which may perpetuate the feelings. In their meta-analysis of 114 studies, Aldao, Nolen-Hoeksema and Schweitzer, (2010), found medium effect sizes for the efficacy of acceptance-based techniques, akin to Mindfulness, in improving emotion regulation skills. Mindfulness practice can be conducted on either a formal or informal basis, dependent on the extent of planning and time put aside for the activity (van Dijk, 2012). One form of mindfulness practice which has shown success in regulating the biological markers associated with emotional dysregulation is Biofeedback.

Biofeedback is a computerised training method which facilitates users to gain better control of autonomic physiological responses via interactive computer programmes by measuring heart rate variability and skin conductance. It has been found to demonstrate efficacy in treating anxiety disorders (Rice & Blanchard, 1982) and managing symptoms of schizophrenia (Acosta & Yamamoto, 1987). The technique relies on users modulating their prefrontal control over lower level amygdaloid responses via optimal patterns of adapting to six breaths per minute. Gillespie et al (2012) explained that this is achieved by increasing the activity of the vagus nerve, associated with increased heart rate variability, which allows for greater executive functioning necessary to engage in adaptive coping methods. Heart rate variability refers to fluctuations in the inter-beat interval of the heart with greater levels indicative of greater variability in the inter-beat interval. Biofeedback computer programmes are derived from Mindfulness-Based Stress Reduction techniques (Kabat-Zinn, 2003) which offer users a means of meditational practice which has been also been shown to reduce verbal

and physical aggression (Singh et al., 2007). As such, biofeedback has may be considered to have shown potential clinical utility at addressing risk factors amongst forensic samples.

Despite the prominent role of disturbed emotion regulation identified as a risk factor towards sexual offending, treatment programmes have typically failed to prioritise addressing this criminogenic need (Cortoni, 2005). The current study, therefore, aimed to investigate the efficacy of engaging IIOC offenders in biofeedback training at addressing deficient emotion regulation skills.

Aim

This study (Study 2) aimed to explore whether online IIOC users exhibited improvements in their self-reported level of disturbed emotion regulation, as measured by psychometric analysis, following eight weekly biofeedback sessions. These sessions employed biofeedback-based regulation techniques to aid participants in achieving an optimal rate of breathing of six breaths per minute.

METHOD

Participants

The author was provided with a dataset pertaining to eight participants recruited via opportunity sampling from the same charitable offender management group programme from which the participants for Study 1 were drawn (NB – the sample in Study 2 was not the same as that recruited for Study 1). The same inclusion criteria applied to these participants as those in Study 1, that is, all had been arrested, cautioned or convicted for having perpetrated an offence relating to the access of IIOC, but who had no convictions relating to perpetrating

any contact sexual offence. A pre-requisite for participation in the programme and the current study included not denying culpability for the respective IIOC offence(s).

Procedure

All participants completed a psychometric measure of their ability to adaptively regulate their emotion. Half of the participants (Group 1; $n = 4$) then engaged in an eight week biofeedback training programme, comprising weekly 12 minute sessions. Each training session involved participants being individually supervised while completing a commercially available Mindfulness-based training programme. Participants' heart rate variability and skin conductance were measured via three electrodes fitted to a light digit (finger) device. The results of the monitoring were fed back to participants in real-time and used as an indicator of how effectively they were responding to the instructions of the programme. Increases in variability were considered to be suggestive of the more effective regulation of their lower level amygdaloid responses. The other half of the sample (Group 2; $n = 4$) did not engage in any biofeedback training. All participants completed the same psychometric measure at the end of the eight weeks.

Intervention

The biofeedback training required participants to engage in a number of forms of mindfulness-based practice, including: counting breaths, observing sounds, observing an object and focusing on a single thought.

Measure

Emotion Control Questionnaire, Second Edition (ECQ2; Roger & Najarian, 1989). The ECQ2 is a 56-item self-report inventory designed to gauge a respondent's emotion control

style to perceived sources of stress. The ECQ2 elicits scores on four scales of conceptually distinct methods of emotion control: *rehearsal (rumination)*, *emotional inhibition*, *benign control* and *aggression control*. Each scale is represented by 14 items which respondents are required to dichotomously endorse as ‘true’ or ‘false’. Cumulative scores for each scale are used to distinguish the respondent’s dominant emotion control strategy, via ranked order and comparison with norm sample means. A critique of this measure is presented in Chapter 4.

Ethics

Consent was gained from participants at the outset of the study. The study was conducted in accordance with the professional codes of conduct of the British Psychological Society (2009) and the Health Professions Council (2007). Ethical approval had also been granted for the use of the data from the organisation which supplied the dataset, operating in accordance with the principles of the University of Birmingham’s Code of Practice for Research.

Treatment of Data

Owing to the exploratory nature of the study, looking at the provisional outcome of a relatively new treatment approach amongst a limited population of offenders, insufficient participants were recruited to conduct inferential statistical analysis. Instead, the data were used for descriptive analysis, examining for clinical significance between the two groups at the end of the treatment period. Effect sizes were calculated to examine for pre- to post-treatment change.

RESULTS

In order to investigate whether there was a change in the emotion regulation strategies employed by participants from pre- to post-treatment, a series of descriptive statistical and

effect size analyses were conducted. Table 5 shows the mean pre- and post-treatment scores, standard deviations and Cohen's *d* effect size calculations for each scale for Group 1 and Group 2. Cohen's (1988) definitions of effect sizes were used for interpretation, whereby 0.20 is considered to represent a small effect, 0.5 a medium effect and 0.8 a large effect size.

Table 5. Mean total scores for the ECQ2 subscales, pre- and post-treatment, desired direction of change and effect sizes.

	ECQ2 Subscale	Pre-Treatment Mean	SD	Post-Treatment Mean	SD	Desired/Expected Direction of Change	Clinically significant change analysis (Cohen's <i>d</i>)
Group 1 (n = 4; undertook biofeedback course)	Rehearsal	8.25	3.77	7.50	3.70	↓	0.20 - small
	EI	7.25	2.75	6.75	2.87	↓	0.18
	BC	8.25	1.26	8.5	2.38	↑	0.13
	AC	10.00	4.08	10.00	1.41	↑	0.00
Group 2 (n = 4; no biofeedback)	Rehearsal	9.75	2.06	9.25	2.06	No change	0.24 - small
	EI	8.00	2.71	8.50	2.65	No change	0.19
	BC	6.50	4.51	6.50	4.72	No change	0.00
	AC	9.50	3.87	8.25	3.40	No change	0.34 – small

Participants' scores in Group 1 followed the desired direction of change after biofeedback training on all subscales apart from Aggression Control. Participants were found to engage in less Rehearsal, however, only a small effect size was observed. A similarly small effect size was found for the observed reduction in EI after biofeedback training and the observed

improvement in BC was found to have a very weak effect size. There was no change in the observed level of AC exhibited by the experimental group at the end of treatment.

When interpreted clinically, by comparing the observed group means against the ECQ2 norm sample data, reported by Roger and Najarian (1989; see Table 6), Group 1 scores on the Rehearsal, EI and BC scales all fell within the normative range both pre- and post-treatment. The scores on the AC scale of participants in the experimental group were above those expected to be found in the non-offender population, indicating a superior ability to control aggression. This remained at a ceiling limit post-treatment.

Table 6. ECQ2 normative sample means, taken from Roger and Najarian (1989).

	ECQ2 factor mean scores (SD)			
	Rehearsal	Emotion Inhibition	Benign Control	Aggression Control
Males (n = 111)	7.96 (3.18)	6.00 (2.61)	7.22 (2.88)	6.53 (2.89)
Females (n = 133)	7.24 (2.62)	7.03 (2.94)	8.82 (1.83)	7.33 (3.02)

It was expected that participants in Group 2 would not exhibit improvements in their mean scale scores on the measures of emotion regulation as they did not receive biofeedback training. Descriptive analysis indicated that there was no change on only the BC subscale scores of this group from the time of the first and second assessments.

Despite receiving no biofeedback training, the mean Rehearsal scale scores of Group 2 dropped over the eight week period, mirroring the trend of decreasing mean Rehearsal scores reported by Group 1 participants. The mean Rehearsal scores of participants who had received treatment were lower than their control counterparts at the time of the second assessment, however, both Groups’ scores remained in the normative range. A marginally

larger effect size was found for the reduction in Rehearsal scores amongst Group 2 than Group 1, although this was still considered small (Cohen, 1988).

Mean EI scale scores increased amongst the no treatment group from the time of the first assessment to the second, exhibiting a small effect size. Although both Group 1 and Group 2's mean EI scores remained in the normative range at the start and end of the eight week period, a clear descriptive trend was evident whereby EI levels dropped amongst those who completed biofeedback training but increased amongst those who had not undertaken any training.

The strongest observed effect size across all results was a worsening ability of participants in Group 2 to control their aggression, indicated by their mean scores on the AC scale. AC scores for participants who had not undertaken biofeedback training fell from the above average range into the normative level.

Power Analysis

Due to the very small sample size, the current study anticipated severe limitations to its statistical power. Based on the observed small effect sizes of pre- to post-treatment change within Group 1's mean Rehearsal scores, and Group 2's Rehearsal and AC scores, and the total sample size, a *post-hoc* power analysis was conducted using G*Power 3.1.3. This found, as expected, the study was under-powered, with a $1-\beta$ error probability well below the desirable rate of 0.80 (Cohen, 1988). Hence, interpretations drawn from the results should be considered as provisional, and in need of further investigation.

Using G*Power v3.1.3, an *a priori* power analysis was performed to elucidate what sample size would be required for a larger-scale replication of the study to achieve sufficient statistical power. This calculation was based on the small observed effect sizes found, above,

and the one-tailed predicted direction of difference within group means. The analysis showed that a total sample of between 50-140 participants in each group would be required to achieve statistical significance.

DISCUSSION

The results of the current study indicated that IIOC offenders' scores on three of the four subscales of emotion regulation (Rehearsal, Emotional Inhibition and Benign Control) were all in the normative range pre- and post-treatment. Although the lack of clinically significant change between the pre- and post-treatment scores may question the efficacy of the biofeedback training package at eliciting change, the null result found by the current study is attributed to a sampling artefact.

Sampling concerns

Participants' ECQ2 scores suggested that they did not have marked self-regulatory deficits at the outset of treatment. This is inconsistent with the results of Study 1 which indicated that many participants struggled to adaptively manage emotional dysphoria; and inconsistent with the findings of Middleton et al. (2006) which indicated that a significant proportion of IIOC offenders displayed primary deficits in regulating their emotions (Ward & Siegert, 2002), as identified by their profiles on the Interpersonal Reactivity Index (Davis, 1980) and the Barratt Impulsivity Scale, Second Edition (BIS-II; Barratt, 1994). It may be, therefore, that the IIOC users recruited in current study (Study 2) may not be representative of the general IIOC-only user population.

Although the ECQ2 profiles of the online IIOC users recruited in Study 2 did not indicate above average tendencies to engage in excessive rumination (Rehearsal scale) or to inhibit their emotions completely (EI scale), it is not to say that larger samples of offenders may exhibit these difficulties. The results of Study 1 showed that many offenders were preoccupied by stress and factors related to their offending and that they inhibited their expression of this towards others. It was therefore, expected at the outset of Study 2 that participants would display above average scores on the Rehearsal and EI scales. The results of Study 2 showed that both the treatment and control groups' mean scores on these scales were in the normative range at both times of measure. It may be that this was a chance artefact of the small size of the sample used. The strength of the ECQ2's validity and reliability, as identified by the critique presented in Chapter 4, warrants that the measure should be incorporated as an outcome measure into future suitably-sized research investigating the effect of treatment upon maladaptive emotion regulation strategies amongst IIOC users.

Notably, the current sample was not the same as that recruited for Study 1, which elicited a large amount of qualitative data indicating marked deficient emotion regulation skills. As the current study only gathered psychometric data, there was no qualitative information available to offer insight into other evidence of poor emotion regulation. Additionally, the participants recruited for Study 2 had already received some form of treatment for their offending behaviour. It may be that the (non-biofeedback) treatment they had already received may have contributed to the development of more adaptive skills to manage emotional dysphoria, and so limited the benefit of the Mindfulness-based training. If the current study is to be replicated, it would offer greater insight to recruit a sample of IIOC-only users who had

received no other treatment prior to participation. However, the descriptive data generated by the current study does reveal some potential trends of interest.

Data trends

A general trend, and small effect size, within the data indicated a reduction in scores on the Rehearsal subscale in the experimental group from the start to the end of treatment. Although their scores remained in the normative range, the descriptive data suggest that participants who received biofeedback training tended to engage in less cognitive rumination after learning Mindfulness-based stress-reduction techniques. This may have important implications as it would suggest there may be a trend that the treatment received by the experimental group may help control over-activation of the amygdala, associated with excessive rumination and maladaptive emotion regulation amongst IIOC users (Urry et al., 2006). This offers support for the results of wider research that indicates that engaging in acceptance of negative emotions, rather than rumination, benefits individuals to better manage their cognitive load (Damasio, 1996; Lieberman et al., 2005, 2007; Wilkinson-Tough et al., 2010). As such, those participants who received biofeedback training appeared to be able to more adaptively manage their emotions (although still within the normal range) at the end of treatment. It would be of significant academic and clinical interest to repeat the current study using an experimental group of IIOC users who have above average Rehearsal scores pre-treatment, to allow a greater scope to observe clinical change.

It should be noted that a reduction in mean Rehearsal scores was also found in the Control Group between the two times of measure. This throws question as to whether there is any benefit in utility of engaging in biofeedback over maintaining general contact with therapeutic services amongst emotionally dysregulated IIOC offenders. However, a trend could be observed within the descriptive data which indicated that Rehearsal subscale scores

amongst the Control Group remained higher, (although within the normative range, they were closer to the upper threshold), than the mean scores of offenders who had received biofeedback training, at the time of second measure. The trend of attenuation in Rehearsal scores amongst the Control Group may be an artefact of other non-biofeedback treatment they received in the intervening period. It would be of considerable clinical interest to repeat the current study using a control group emotionally dysregulated IIOC users who have received no treatment at all in order to compare against ECQ2 outcome scores of IIOC users who have received biofeedback training.

IIOC offenders in the experimental group exhibited above-average scores on the Aggression Control (AC) scale of the ECQ2 pre-treatment. These scores remained at the same level post-treatment, indicating that undertaking biofeedback training did not have a clinically significant impact IIOC offenders' tendency to manage their emotional experience interpersonally. Overall, these scores suggest that the sample of IIOC users were more likely to refrain from expressing their emotions in a hostile or violent manner than the general population. Mean Aggression Control scores amongst the Control Group were only slightly under the upper normative threshold pre-treatment. These scores are not surprising as IIOC-only offenders are theoretically considered less likely to express emotional distress via face-to-face confrontation. They are thought more likely to choose to vent their dysphoria online, owing in part to a lack of adaptive interpersonal skills and their perceived threat of offline interaction (Elliott & Beech, 2009; Elliott, Beech, Mandeville-Norden, & Hayes, 2009; Middleton et al., 2006).

The above average scores of IIOC users on the AC scale may be attributable to their lack of appropriate interpersonal skills, namely related to assertiveness, to manage or express their emotional dysphoria in person. It is this lack of interpersonal skills which, in part, prompts

them to offend online. By over-controlling their aggression or hostile fervour, IIOC users can be considered at a greater risk of relieving their stress via the Internet. As such, the ECQ2 demonstrated its clinical utility at identifying this tendency among online offenders to fail to cope with their stress in person. It may be that those with above average AC scores are more likely to turn to a virtual outlet to relieve stress.

It was expected that receiving biofeedback training would result in an increase in AC scores amongst online IIOC-only offenders as the therapeutic technique teaches subjects to reflect on their emotional experience rather than externalise it towards others. Although no clinically significant increase was observed pre- to post-treatment, this was impossible as pre-treatment mean scores were at the ceiling limit and so there was no room for scores to further increase. As such, it is impossible to tell from this data whether biofeedback training would have increased the offenders' engagement in aggression control or not.

Notably, participants in the Control Group displayed a non-clinically significant drop in AC scores at the time of the second measure. This suggests there may be a trend amongst IIOC offenders who do not undertake mindfulness-based training, but who do maintain general therapeutic contact, to begin to interpersonally express their emotional experience. The implications of IIOC offenders being able to more readily confront others are mixed. It could be argued that one of the difficulties that motivates this offender group to engage in online offending is their dispositional struggle to interact on a direct face-to-face basis. It may be, therefore, that if they were more able to express themselves interpersonally and exercise assertiveness skills (thereby engaging in less aggression control), then they would be less likely to retreat online to fulfil their interpersonal needs and manage emotional dysphoria. Consequently, it may be of benefit to engage IIOC-only offenders in other general therapeutic activities such as interpersonal or assertiveness skills training, rather than a more introverted

Mindfulness-based therapy to allow them to develop these skills. In this context, Mindfulness-based training could be perceived as being counter-productive.

Conversely, therapists and offender management agencies may be reluctant to refer IIOC-only offenders in assertiveness skills training, or packages aimed at reducing their over-controlled aggression, as this may prompt them to behave in more physically direct antisocial behaviours. The principle underlying this concern is that IIOC offenders have displayed a readiness to engage in sexually deviant offending behaviour, if they were less interpersonally inhibited they may be more likely to engage in contact sexual offending. Due to the conflicting nature of these positions regarding how best to treat IIOC offenders' interpersonal deficits, it is suggested that further research be undertaken to investigate the efficacy of teaching interpersonal skills, alongside Mindfulness-based training, to online IIOC-only offenders to examine for the occurrence of dual offending (contact and online offences) within recidivism data.

Limitations and directions for future research

The discussion has reflected upon significant concerns held by the current author regarding how representative the sample was of online IIOC-only offenders in general due to the lack of psychometrically-measured problematic emotion regulation patterns (such as above average Rehearsal and Emotional Inhibition scores) pre-treatment. This is in light of contrasting data found by Study 1, and Middleton et al. (2006), which illustrates key deficits in this area. It may be that the current sample did not display the same base rate deficits in emotion regulation which may be expected to be present amongst IIOC users as participants in both the experimental and control groups had already received some form of (non-biofeedback) therapeutic intervention. Although the review of the ECQ2, presented in Chapter 4, highlighted the clinical utility of the tool, it could be questioned whether the

current sample did harbour emotion regulation difficulties, but that these were simply not detected by the psychometric measure used. It would, therefore, be of worth repeating the current study with a larger sample group and by limiting the level of any therapeutic contact received by the control group.

The suitability of delivering Mindfulness-based training to elicit a change in emotion regulation skills, rather than other forms of therapy, could be questioned. Linehan (1993) suggests a raft of other more complex therapeutic techniques which address deficits in this domain, for example, employing *opposite action* skills. This requires the subject to practise behavioural activities which counteract the negative emotion being experienced, such as adopting facial and bodily postures incongruent with low mood, shame and disgust. By engaging offenders in alternative therapeutic techniques, such as opposite action, they may learn skills to use in the long term to redress emotional distress, rather than only accepting it in the moment, to address this criminogenic need. Therefore, further research would be of assistance which explores the efficacy of other techniques to address emotion dysregulation, rather than acceptance alone.

The current study also overlooks the role of other criminogenic factors which may increase an IIOC-only offenders' risk, irrespective of deficits in the emotion regulation domain. These include the role of unmet intimacy needs, deviant sexual interest and antisocial cognitions (Elliott & Beech, 2009; Middleton et al., 2006). Further research should be applied into exploring the efficacy of treatment programmes which aim to address these other areas, such as re-conditioning techniques or developing victim empathy skills.

It remains that a growing body of data has demonstrated the clinical utility of employing Mindfulness-based acceptance techniques to reduce affective dysphoria (Gillespie et al., 2012). It may simply be that the duration of the training programme was not long enough to

improve the participants' emotion control styles. Future replications of this study should consider delivering a longer course of treatment to test for differences between groups.

In light of the null result likely being the result of a sampling artefact, there is sufficient promise from the data to warrant further investigation of the efficacy of Mindfulness-based training on a larger scale at addressing the risk of this offender group.

CHAPTER SIX

Discussion

This thesis aimed to gain a better understanding of how to efficaciously assess and manage the risk posed by IIOC users. This was in response to growing societal concern regarding the prevalence of IIOC use, and clinical concern regarding how to best manage this offender group, highlighted by a literature review in Chapter 1 (Lam, Mitchell, & Seto, 2010; Middleton, 2009; Sheldon, 2011). It was reported that between 2011 and 2012, UK police referrals for IIOC offences increased by over 180%, representing over 3,000 cases, with single collections comprising up to 2.5 million images (Child Exploitation and Online Protection centre; CEOP, 2012). True offending rates are likely to be even higher as a large proportion of offences remain hidden due to: (i) reluctance amongst victims to disclose their abuse; (ii) difficulty detecting offences as a result of the use of non-standard file sharing protocols, such as the 'Darknet', and sophisticated data transfer technologies, and; (iii) due to the legal complexity of gathering sufficient evidence to secure a conviction (Elliott & Beech, 2009; Leander, Christianson, & Granhag, 2007, 2008; Mansfield-Devine, 2009; Quayle & Jones, 2011; Quayle & Taylor, 2003). The focus of this thesis was further justified in light of the deleterious impact IIOC offences have been found to have upon the psychological wellbeing of victims (Burgess & Hartman, 1987; Mitchell, Finkelhor, & Wolak, 2007; Palmer & Stacey, 2004).

Chapter 2 addressed a primary question posed by risk management agencies involved in the supervision and treatment of online IIOC users. It presented a semi-systematic review of literature regarding known dual offending rates, that is, the proportion of online IIOC offenders known to have also perpetrated a contact sexual offence (Babchishin, Hanson, & Hermann, 2011; Basbaum, 2010; Long, Alsion, & McManus, 2013; Wolak, Finkelhor, & Mitchell, 2009). The review built on typological models proposed by Elliott and Beech (2009), Krone (2004), and Lanning (2001) which suggest different subgroups of IIOC users

may conceptually be more likely to perpetrate a contact sexual offence than others.

Descriptive data synthesis was conducted, with consideration given to three theoretical perspectives: (i) that the risk of using online IIOC is entirely independent of the risk of perpetrating a contact sexual offence; (ii) that online IIOC use serves a cathartic function to manage an urge to perpetrate a contact sexual offence, and; (iii) that online IIOC use reinforces or occurs alongside an urge to contact sexually offend (Calder, 2004; CEOP, 2012; Quayle, Holland, Linehan, & Taylor, 2000; Sullivan & Beech, 2004; Wortley & Smallbone, 2009).

Of 468 citations yielded by the search protocol, 23 were retained after applying PICO inclusion and exclusion criteria. From those, rates of dual offending ranged from 0.0% ($n = 0$) to 88.8% ($n = 71$), with a median rate of 13.5%. The large variation in the dual offending ratio was mediated by the source of contact offence related data. A mean dual offending rate of 10.0% ($n = 730$) was found amongst studies relying on official criminal data; higher rates were using offender self-report information alone at 45.8% ($n = 215$); with the greatest rate of dual offending identified from mixed sources of official offending records, offender self-report and elicited by polygraph sexual history disclosure examination at 63.2%, ($n = 91$). Studies which recruited samples from official offender databases elicited a dual offending rate of 11.0% ($n = 346$), whilst participants selected from populations undergoing intervention who had actively volunteered to engage were found to have higher rates of dual offending at 44.2% ($n = 346$).

The results of the systematic review illustrate that there is overlap between populations of online IIOC users and contact sexual offenders. However, the extent of overlap is ambiguous due to the disparity found in dual offending rates according to the source from which offence data was drawn. The results are consistent with observations made by Abel et al. (1987),

Ahlmeyer, Heil, McKee, and English (2000), and Beech, Fisher, and Thornton (2003), that official data under-represents true incidence rates of offending, as highlighted in Chapter 1. Data analysis also suggested there may be some promise in the use of the polygraph to elicit novel disclosures of otherwise hidden offences during the assessment or treatment process of IIOC users, supporting the findings of Ahlmeyer et al. (2000), Grubin (2006), and Wilcox, Sosnowski, Warberg and Beech (2005). Amongst samples of IIOC users motivated to engage in treatment programmes, dual offending rates were found to be higher (44.2%, $n = 346$) than amongst samples drawn from official criminal record databases (11.0%, $n = 841$). This pattern of results is largely consistent with dual offending rates found by Seto et al. (2011) in a meta-analysis investigating the same topic, performed during the conduct of this thesis. Although dual offending rates offer some insight into the potential risks posed by IIOC users, the sequence in which online and offline offences occurred was rarely made clear. Further analysis is needed to identify whether IIOC use precedes, or follows contact offences, to more accurately map dual offender career pathways. It was deemed vital to gain greater insight into common risk factors between online and contact offences and also into protective factors present in online-IIOC only samples which deter them from perpetrating a further online or offline contact offence.

Chapter 3 comprised a qualitative study (Study 1), which aimed to explore factors which contribute to the risk of IIOC-only users first accessing indecent material, and perpetuating factors which sustain their online offending behaviour. A thematic analysis of IIOC-only offender accounts was performed, following Braun and Clarke's (2006) methodology, to identify risk factors associated solely with IIOC use and protective factors against continued IIOC offending. The results yielded a number of themes consistent with the four stable

dynamic risk factors of contact offending (Craig, Browne, & Beech, 2008), but which were expressed differently.

The most prevalent theme identified from IIOC offenders' accounts related to the use of material in a pattern of maladaptive emotion regulation (Gross & Thompson, 2009) as either a form of *stress relief* or as an *addiction artefact*. Although this is consistent with the role of emotion dysregulation as a risk factor in the commission of contact sexual offences, in the latter context it typically manifests as aggressivity or externalised impulsive risk taking behaviour rather than introverted behaviour (Hanson & Morton-Bourgon, 2007). IIOC users were also found to display evidence of a theme of offending to satisfy unmet intimacy needs. This supports Elliott and Beech's (2009) theoretical model which proposed that online offenders rely on virtual material to achieve sexual satisfaction in the absence of an adaptive fulfilling offline relationship. A further subtheme was extracted which related to IIOC use as serving an interpersonal function. This was intrinsically related to the method used to access material. Participants who disclosed directly receiving IIOC from other offenders in online chat rooms or instant messaging channels said that they did so primarily to facilitate a form of interaction. These users suggested that their interest in the content of material was secondary or negligible to their desire to maintain a virtual relationship with another user. However, deviant sexual interest in minors was found to be a prevalent motivating theme for maintaining offending behaviour across all participant accounts.

Given the availability of an almost unlimited range of sexual material online, it can be thought that IIOC users are highly likely to have a deviant sexual preference for minors which maintains their engagement in a risky online act. The extraction of themes from the data indicated that all participants disclosed either a *pre-existing established deviant interest* or the *development of a conducive preference*. The latter theme was characterised by accounts

in which offenders described an initial curiosity in IIOC when they accessed it incidentally but that this became reinforced due to an associated thrill and habituation to mainstream legal material. It is as yet unclear as to whether exposure to IIOC created a novel deviant interest which otherwise would not have existed or whether it facilitated users to become aware of a latent preference which they otherwise would not have been aware of. It may be that incidental exposure to IIOC when accessing legal sexual content as a masturbatory tool may have contributed to the development of a conditioned interest. Further research is necessary to offer insight into the changing role of deviant interest throughout the course of IIOC offending careers. Additionally, greater understanding is needed regarding the extent that IIOC users' deviant interest in victims may manifest in a sexual preference towards underage subjects offline. Exploration of this factor may help inform models of online to offline offending cross-over.

Consistent with models of child abuse (Ward, 2000; Ward & Keenan, 1999), the qualitative analysis of online-only offender accounts found evidence of the role of anti-social cognitive beliefs which justified the use of IIOC. Prevalent themes were extracted regarding diminished victim harm and diminished offender culpability. These results suggest that an important goal in the treatment of IIOC users would be to improve their levels of victim empathy and engage them in psycho-education regarding the nature of compound harm when existing material is re-accessed. There may be additional worth in conducting educational schemes on a broader societal level to combat the lack of awareness regarding the legality of IIOC access found in non-offender samples by Lam et al. (2010). No evidence was found for the presence of beliefs relating to the *world is dangerous* and that all people and actions are *uncontrollable*, which Ward and Keenan (1999) found to characterise the impulsive dispositions and sense of entitlement present in contact sexual offenders. It may be that this combination of beliefs

protects IIOC users from engaging in contact sexual offences as they regard themselves to be more in control of their actions and that while they perceive accessing IIOC does not cause harm, committing an offence against a minor in person is unjustifiable.

The most successful means of abstinence from IIOC use appears to comprise adaptively fulfilling criminogenic needs offline, such as being in a satisfying interpersonal relationship and engaging in more effective emotion regulation strategies. When considered in the context of Gross and Thompson's (2007) emotion regulation model, offenders reported more adaptively managing their stress and urges to access IIOC by employing situation avoidance, cognitive reappraisal and cognitive and behavioural diversion. Other strategies need to be identified to support IIOC users from instinctively turning to the Internet to meet their needs to relieve stress or satisfy their unmet intimacy needs. This is particularly relevant in instances where offenders describe an addictive behavioural pattern of IIOC use to achieve their needs. Future research into the use of online addiction-focused therapy may be of helpful insight when formulating intervention plans for IIOC users.

Using the results of Study 1, the current author developed a tentative model of IIOC use, which viewed the cycle of offending within the context of the role of IIOC as a maladaptive tool to regulate emotional dysphoria, see Figure 5. If the model were applied across a number of clinical contexts, it may hold important implications for the adaptation of IIOC offender assessment and management plans. For instance, the model highlights a number of key predisposing and perpetuating risk factors which motivate IIOC use, and which may be amenable to change in treatment. Assessing and treating clinicians may benefit from directly exploring problems in these domains in order to tailor intervention.

The following factors identified by the model as contributing to the risk of IIOC use could be explored via clinical tests: deviant sexual interest, sensation-seeking personality traits, pro-

offending beliefs, compulsive tendencies, and entrenched Internet use. The current author notes that there is a lack of psychometric tools which aim to specifically explore these factors amongst IIOC offenders. Tests which are typically used to investigate these domains within sexual offending, such as Beckett's (1987) Children and Sex Cognitions Questionnaire to analyse justifying attitudes, have been derived from models of contact sexual offending. As theoretical factors have been found to be present amongst IIOC-only offenders, it is vital that appropriate psychometric scales should be developed which frame items within the context of online sexual offending. Increasing numbers of arrest and conviction rates for IIOC-only offenders suggest there would be a sufficiently large parent population from which to recruit a sample to derive offender norm profiles.

In addition to informing the direction of risk assessment strategies with IIOC users, the model presented in Figure 5 (Study 1), could be transferred directly to inform the tailoring of suitable intervention packages. For instance, the model highlighted the important role of an addiction artefact, or a compulsive component, to IIOC use during the maintenance phase. A treatment module could be introduced to the i-SOTP (Middleton & Hayes, 2006), or individual intervention plans within the prison, probation or mental health services to specifically address this.

Other directions for treatment suggested by the interpretation of findings in Study 1, include helping IIOC users to find alternative adaptive means to fulfil their sensation-seeking needs, and to help them develop the social skills to forge appropriate offline interpersonal relationships. Further, intervention methods could be adapted to address general poor coping with emotional dysphoria, using the stressful situation of arrest as a platform to practise adaptive emotion management skills.

Study 1 also yielded important data regarding the technological methods IIOC offenders used to access material (see Appendix K). This data may offer be helpful in directing police agencies, and online service providers to monitor at risk offence routes. For example, almost all participants recruited in Study 1 reported following simple key word searches via mainstream search engines. At present, private companies can pay so that entering specific search terms results in a link to their website automatically being presented at the top of the resulting list, as an advertised page. Government agencies could liaise with service providers so that a sponsored warning regarding the use of such search terms could be presented at the top of the resulting page. The data presented in Appendix K also indicated IIOC users accessed material via a number of idiosyncratic means, such as an online auction site, and via links promoted on social media. By alerting hosts of these websites to the offending behaviour that takes place on them, strategies could be put in place to improve the detection and policing of IIOC use.

On this basis of these findings, the current author decided to undertake an exploratory investigation into the efficacy of a treatment programme aimed at improving emotion regulation skills amongst IIOC-only offenders. Before this was possible, it was first necessary to identify a psychometric tool to gauge pre- to post-treatment change in emotion regulation styles as an outcome measure. The Emotion Control Questionnaire, Second Edition (ECQ2; Roger & Najarian, 1989) was selected for this purpose.

A critique of the ECQ2 was presented in Chapter 4. This chapter presented an overview of the development of the tool and reviewed literature which tested the validity and reliability of the measure. The critique highlighted research which has found the ECQ2 to demonstrate at least acceptable to good internal consistency with via KR-20 formula and test-retest analysis (Gross & John, 1997; Lok & Bishop, 1999). Although it was highlighted that the tool may

suffer in its objectivity in administration by the lack of a formal administrative and interpretative manual, it was felt to hold strong clinical utility at identifying maladaptive emotion control behaviours, typically displayed by psycho-pathologically disordered populations. For this reason, the ECQ2 was retained to measure pre- to post-treatment change in emotion regulation styles amongst IIOC users.

Chapter 5 presented a second small scale empirical investigation which examined the efficacy of a Mindfulness-based training course in assisting IIOC users enhance their emotion regulation skills (Study 2). This treatment approach comprised the delivery of an eight week computerised training programme which required subjects to engage in Mindfulness-based exercises (such as rhythmic breathing and focused attention) in order to reduce maladaptive rumination and emotion inhibition thinking patterns. The method was informed by a growing evidence base which suggests that labelling/accepting negative emotion states, rather truncating or inhibiting them, lessens cognitive load and prevents undue anxiety about future events (Bechara & Damasio, 2005; Damasio, 1996; Kabat-Zinn, 2003; Lieberman, Hariri, Jarcho, Eisenberger, & Bookheimer, 2005; Lieberman et al., 2007; Linehan, 1993; Linehan, Bohus, & Lynch, 2007). Study 2 compared the pre- and post-treatment psychometric scores of a small sample of IIOC users who completed the training course and an equally-sized control group of IIOC users who did not undertake Mindfulness-based training. The results indicated that both groups of participants' levels of emotion regulation were in the normative range on three of four scales at both times of psychometric analysis. The only variation in either groups' scores outside the normative range was that participants who received Mindfulness training displayed high levels of *Aggression Control* (AC) pre- and post-treatment.

The implication of IIOC offenders' above average AC scale scores suggest that they are over-controlled in their (non-)expression of offline aggression. That is, the IIOC offenders recruited for Study 2 were less likely than a normative sample to engage in any hostile or confrontational interpersonal behaviours with others face-to-face. When viewed in the context of Elliott and Beech's (2009) theoretical review, this is likely as a result of insufficient interpersonal assertiveness skills. AC scores amongst the IIOC offender sample likely remained in the above-average range post-treatment as the Mindfulness-based training did not seek to teach subjects to externalise their emotions. To this extent, the IIOC-only offenders in Study 2 displayed consistent emotion regulation deficits as those recruited in Study 1, who similarly lacked adaptive interpersonal skills to manage their emotional dysphoria offline. It is this inability to manage negative emotions externally which may prompt offenders to retreat to an online virtual world to meet their needs. For this reason, it may be more appropriate to engage IIOC-only offenders in interpersonal and assertiveness skills training to enhance their ability to manage their emotional dysphoria offline. This would perhaps reduce their risk of engaging in problematic patterns of stress relief behaviour online. However, there is a converse risk that by teaching IIOC users interpersonal skills, they may develop the confidence to attempt an offline sexual offence.

There was much less consistency between the findings of Study 1 and Study 2 with regard to participants' engagement in rumination and inhibitory patterns of emotion management. The results of Study 1 indicated IIOC users tended to become preoccupied by offence-related thoughts (for example, the addiction component and guilt associated with access) and that offenders failed to adaptively regulate their emotional distress by instead distracting themselves and going online. In light of these data, and the findings of similar pathway studies (e.g. Middleton, Elliott, Mandeville-Norden, & Hayes, 2006), it had been expected

that participants recruited in Study 2 would yield above average scores on the Rehearsal and Emotion Inhibition (EI) scales of the ECQ2. However, both the treatment and control groups' mean scores on these scales were in the normative range at the first and second times of measure.

The inconsistency of the findings of Study 2 in contrast to associated theoretical literature is considered to be due to a sampling artefact, rather than due to the form of treatment delivered or the use of the ECQ2 as an outcome measure. All participants were already engaged in a more generic form of group therapy at the time of the first psychometric analysis. Research conducted by Middleton, Mandeville-Norden and Hayes (2009) has shown that perpetrators of Internet-related sexual offences have displayed improvements in their psychometrically-measured regulation of emotion from engaging in more generic self-reflection in a group therapy setting, which may have disguised any additional gains offered by Mindfulness training. Study 2 was also limited by the very small participant numbers recruited for analysis. In light of the benefits shown by the delivery of Mindfulness training with other psychopathologically-disordered groups (Acosta & Yamamoto, 1987; Rice & Blanchard, 1982; Singh et al., 2007), there would be much value in repeating the study on a larger scale with untreated IIOC users who have been found to display marked deficits in emotion regulation pre-treatment.

Limitations and directions for future research

Reflection on the limitations of this thesis highlights some important directions for future research in the field of online IIOC offending. Although the systematic literature review highlighted important statistical information regarding dual offending rates amongst IIOC users, these data lack clinical relevance until it can be ascertained what factors contribute specifically to dual offending risk, rather than the discrete risks of IIOC or contact sexual

offending. There is, therefore, a need to elicit further data from dual offending studies which would indicate whether dual offenders cross-over in the sequence of their offending from online-to-offline or offline-to-online. A project for future study could review dual offence sequencing, and in doing so, give indication as to whether IIOC increases contact sexual offending risk or whether it simply forms an adjunct to wider disinhibited offending behaviour.

Study 1 may be considered limited by its small sample size, however, this was appropriate due to the exploratory qualitative nature of project. Greater concern may be levelled at the potential for subjective bias in the construction of thematic codes from data collected in Study 1. Although the form of analysis selected was chosen for its bottom-up theoretically unbiased approach, it resulted in the production of the themes highly consistent with pre-existing models of contact sexual offending. The overlap between the identified concepts may be attributable to genuine commonality of risk factors; or there may have been some degree of subjective bias in the construction of IIOC offending codes. Although inter-rater reliability analysis indicated a good level of agreement regarding the constructed codes, this cannot eliminate the possibility of an imposed understanding of the risk factors involved in IIOC offending shared by the coders. Due to the overlap of these factors, there remains limited understanding of the contribution of unique factors which characterise IIOC-only offending, which are not present amongst contact sexual offenders, other than general problematic Internet use.

Although examining the patterns of IIOC offending offers insight regarding the appropriate application of models of contact sexual offending to the assessment, treatment and management of online offender groups, it does not explain how the use of IIOC may impact upon contact offending risk, nor can it fully inform theoretic models of dual offending. It

remains unclear as to what may predict online-to-offline or offline-to-online cross-over. The question of Sullivan and Beech's (2004) Escalation Theory is also still unanswered, that is, whether IIOC use ultimately increase dual offending risk.

Study 1 revealed some potential protective factors from contact offending, such as aversive beliefs and the lack of an open deviant interest in this behaviour. However, the resilience of these factors protecting IIOC users from crossing over to the offline offence milieu is untested. The current author suspects that these factors alone may be unlikely to prevent cross over as conflicting beliefs and aversive affective reactions were insufficient to maintain of IIOC users in Study 1. There is a clear need for future research to explore this in greater depth to gain insight into the risks factors associated with dual offending. Therefore, a further qualitative investigation could be conducted to generate themes of the role of IIOC use in either creating an interest in contact offending or as a tool to manage an urge to contact offend.

Study 1 produced relatively limited detail regarding the role of deviant sexual interest in motivating IIOC use. Studies which rely upon self-report data alone to investigate this factor will always remain vulnerable to the risk offenders engaging in impression management or socially desirable responding. Therefore, further investigation, building upon the work of Seto, Cantor and Blanchard (2006), using phallometric or viewing time measures with groups of IIOC-only and dual offenders would offer important insight. Similarly, there is great academic and clinical value in exploring the element of addiction and psychological dependence upon indecent online material in perpetuating offending. A growing evidence base has found a reliable relationship between self-reported addiction to pornographic material and the activation of neural regions associated with dependence (Laier, Pawlowski, Pekal, Schulte, & Brand, 2013; Wetterneck, Burgess, Short, Smith, & Cervates, 2012). This

is a critical area for further investigation to examine neurological patterns associated with addiction amongst IIOC users, and in doing so, appropriately tailor intervention strategies.

Study 2 was clearly heavily limited by its very small sample size and the non-representative nature of the sample to wider populations of IIOC users with emotion regulation deficits. As offenders in Study 2 did not display any problematic patterns of emotion control, as measured by the ECQ2, pre-treatment, it was unrealistic to expect improvements post-treatment, as there was no room for improvement. Furthermore, the role of the Control Group was confounded by the fact that they had already been engaged with non-biofeedback therapeutic services. Although control participants were not directly versed in mindfulness-based skills, their generic engagement in intervention allowed them the opportunity to practise *affect labelling*, which may provide similar treatment gains (Lieberman et al., 2007). Therefore, it would be of worth adapting Study 2 to be repeated with a larger sample, and a control group who have received no treatment of any sort, and who show clear emotion regulation deficits.

Additional potential channels to test the efficacy of treatment amongst IIOC users include engaging them in interpersonal skills and assertiveness training, as referred to above, in addition to other emotion regulation skills (such as *opposite action* [Linehan, 1993]) in order to provide them with skills to regulate their distress in the long term, rather than a very short term, and more basic, acceptance-based approach.

Conclusions

This thesis has highlighted the significant societal concern posed by online IIOC users. It investigated the nature of this risk by conducting a literature review of dual offending prevalence rates and consequently found that between one tenth and one half of IIOC users have been found to have also perpetrated a contact sexual offence. A thematic analysis of

IIOC offending pathways highlighted, however, that those who confine their offending to the Internet alone share critical risk factors associated with contact sexual offending, namely emotion dysregulation, deficient interpersonal skills, deviant sexual interest and pro-offending attitudes. This may pose a dilemma to risk management agencies which aim to tailor intervention packages towards the discrete risk of perpetrating the respective offences.

Although the same risk constructs appear to underlie both online and offline sexual offending, they manifest differently. For instance, with regard to the role of emotion dysregulation, online IIOC use represents a maladaptive coping strategy to manage emotional dysphoria via escapism rather than antisocial interpersonal emotional expression which underlies contact offending. Online-only offending was precipitated by the unique factor of cognitive and behavioural addiction not as readily observed in contact offending. Further research is needed to investigate the neural underpinnings of the role of addiction in IIOC use and to consider implementing treatment for offenders for addiction effects. Pro-offending attitudes towards online IIOC use appear to be maintained by the lack of reminders of the harms of accessing images and deterrents against use.

Efforts to police online IIOC access activity are yielding improved returns in arrests rates, however, greater efforts need to be made to improve awareness of the harm to victims of this offence. Broader societal psychoeducation may deter those who access images incidentally from pursuing further access. Similarly, flash pages triggered by entering key terms into search engines or when entering IIOC sites can be used to remind users of the illegality of their actions may and/or interrupt justifying attitudes or cognitive disengagement. Similarly, improved efforts need to be made towards educating minors of the risks involved in sharing sexualised images of themselves in any context, particularly with those they have been approached by online.



REFERENCES

- Abel, G. G., Becker, J. V., Mittelman, M., Cunningham-Rathner, J., Rouleau, J. L., & Murphy, W. M. (1987). Self-reported sex crimes of nonincarcerated paraphiliacs. *Journal of Interpersonal Violence*, 2, 3-25. doi:10.1177/088626087002001001
- Acosta, F. & Yamamoto, J. (1978). Application of electromyographic biofeedback to the relaxation training of schizophrenic, neurotic and tension headache patients. *Journal of Consulting and Clinical Psychology*, 46, 383-384. doi: 10.1037/0022-006X.46.2.383
- Ahlmeyer, S., Heil, P., McKee, B., & English, K. (2000). The impact of polygraphy on admissions of victims and offenses in adult sexual offenders. *Sexual Abuse: A Journal of Research and Treatment*, 12, 123-138. doi:10.790632/00/0400-0123
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, 30, 217-237. doi: 10.1016/j.cpr.2009.11.004
- Alexy, E. M., Burgess, A. W., & Baker, T. (2005). Internet offenders: traders, travelers, and combination trader-travelers. *Journal of Interpersonal Violence*, 20, 804-812. doi: 10.1177/0886260505276091
- Andrews, D. A., Bonta, J., & Holsinger, A. M. (2010). *The psychology of criminal conduct* (5th ed.). Cincinnati, OH: Anderson.
- Babchishin, K. M., Hanson, R. K., & Hermann, C. A. (2011). The characteristics of online sexual offenders: A meta-analysis. *Sexual Abuse: A Journal of Research and Treatment*, 23, 92-123. doi:10.1177/1079063210370708
- *Barnett, G. D., Wakeling, H. C., & Howard, P. (2010). An examination of the predictive validity of the Risk Matrix 2000 in England and Wales. *Sexual Abuse: A Journal of Research and Treatment*, 22, 443-470. doi: 10.1177/1079063210384274
- Barratt, E. S. (1994). Impulsiveness and aggression. In J. Monahan & H. J. Steadman (Eds.), *Violence and mental disorder: Developments in risk assessment* (pp. 61-80). Chicago, IL: University of Chicago Press.

- Basbaum, J. P. (2010). Inequitable sentencing for possession of child pornography: A failure to distinguish voyeurs from pederasts. *Hastings Law Journal*, 61, 1281-1306.
Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1457197
- Bechara, A., & Damasio, A. R. (2005). The somatic marker hypothesis: A neural theory of economic decision. *Games and Economic Behavior*, 52, 336-372. doi: 10.1016/j.geb.2004.06.010
- Beckett, R. C. (1987). *The Children and Sex Questionnaire*. Unpublished.
- Beech, A. R., Craig, L. A., & Browne, K. D. (2009). Overview. In A. R. Beech, L. A. Craig & K. D. Browne (Eds.), *Assessment and treatment of sex offenders: A handbook* (pp. 1-12). Chichester: John Wiley & Sons Ltd.
- Beech, A. R., Elliott, I. A., Birgden, A., & Findlater, D. (2008). The Internet and child sexual offending: A criminological review. *Aggression and Violent Behavior*, 13, 216-228. doi:10.1016/j.avb.2008.03.007
- Beech, A. R., Fisher, D. D., & Thornton, D. (2003). Risk assessment of sex offenders. *Professional Psychology: Research and Practice*, 34, 339-352. doi: 10.1037/0735-7028.34.4.339
- Beech, A. R., & Ward, T. (2007). Risk assessment in the 21st Century. In D. Prescott (Ed.), *Knowledge to Practice: Challenges in the treatment and supervision of sexual abusers* (pp. 309-408). Oklahoma City, OK: Wood’N’Barnes.
- Bernard, H. R., & Ryan, G. (1998). Text analysis: Qualitative and quantitative methods. In H. R. Bernard (Ed.), *Handbook of methods in cultural anthropology* (pp. 595-645). Walnut Creek, CA: AltaMira Press.
- Boekaerts, M. (2002). Intensity of emotions, emotional regulation, and goal framing: How are they related to adolescents’ choice of coping strategies? *Anxiety, Stress and Coping*, 15, 401-412. doi: 10.1080/1061580021000056546
- *Bourke, M. L., & Hernandez, A.E. (2009). The ‘Butner Study’ redux: A report of the incidence of hands-on child victimisation by child pornography offenders. *Journal of Family Violence*, 24, 183-191. doi:10.1007/s10896-008-9219-y

- Bouton, M. E. (2007). *Learning and behaviour: A contemporary synthesis*. Sunderland, MA: Sinauer Associates.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101. doi: 10.1191/1478088706qp063oa
- British Psychological Society. (2009). *Code of ethics and conduct: Guidance published by the Ethics Committee of the British Psychological Society*. Leicester: British Psychological Society.
- *Burgess, A. W., Carretta, C. M., & Burgess, A. G. (2012) Patterns of federal Internet offenders: A pilot study. *Journal of Forensic Nursing*, 8, 112-121. doi: 10.1111/j.1939-3938.2011.01132
- Burgess, A. W., & Hartman, C. (1987). Child abuse aspects of child pornography. *Psychiatric Annals*, 17, 248-254. Retrieved from <http://psycnet.apa.org/psycinfo/1988-17178-001>
- *Buschman, J., Bogaerts, S., Foulger, S., Wilcox, D., Sosnowski, D., & Cushman, B. (2010). Sexual history disclosure examinations with cybercrime offences: A first Dutch explorative study. *International Journal of Offender Therapy and Comparative Criminology*, 54, 395-411. doi:10.1177/0306624X09334942
- Buss, A. H., & Durkee, A. (1957). An inventory for assessing different kinds of hostility. *Journal of Consulting Psychology*, 21, 343-349. doi: 10.1037/h0046900
- Byrne, D., Barry, J., & Nelson, D. (1963). Relationship of the revised Repression-Sensitization Scale to measures of self-description. *Psychological Reports*, 13, 323-334. doi: 10.2466/pr0.1963.13.2.323
- Calder, M. (2004). The Internet: Potential, problems, and pathways to hands-on sexual offending. In M. Calder (Ed.), *Child sexual abuse and the Internet: Tackling the new frontier* (pp. 1-25). Lyme Regis: Russell House Publishing.
- Centre for Reviews and Dissemination. (2008). *Systematic reviews: CRD's guidance for undertaking reviews in health care*. York: York Publishing Services Ltd.

- Child Exploitation and Online Protection Centre. (2012). *A picture of abuse: A thematic assessment of the risk of contact child sexual abuse posed by those who possess indecent images of children*. Retrieved from <http://ceop.police.uk/Documents/ceopdocs/CEOP%20IIOCTA%20Executive%20Summary.pdf>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Comer, D. E. (2007). *The Internet book: Everything you need to know about computer networking and how the Internet works* (4th ed.). Upper Saddle River, NJ: Prentice Hall.
- Cooper, A. (Ed.). (2002). *Sex and the Internet: A guidebook for clinicians*. New York: Brunner-Routledge.
- Cooper, S. W., Estes, R. J., Giardino, A. P., Kellogg, N. D., & Vieth, V. I. (2005). *Medical, legal and social science aspects of child sexual exploitation: A comprehensive review of pornography, prostitution and Internet crimes*. St. Louis, MO: GW Medical Publishing.
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 78, 98–104. doi: 10.1037//0021-9010.78.1.98
- Cortoni, F. (2005, November). *Criminal career pathways of sexual offenders: Clinical implications*. Paper presented at the 24th Research and Treatment Conference of the Association for the Treatment of Sexual Abusers, Salt Lake City.
- Cortoni, F. (2009). Factors associated with sexual recidivism. In A.R. Beech, L.A. Craig & K.D. Browne (Eds.), *Assessment and Treatment of sex offenders: A handbook* (pp. 39-52). Chichester: John Wiley & Sons, Ltd.
- Coward, A. I., Gabriel, A. M., Schuler, A., & Prentky, R. A. (2009, March). *Child Internet victimization: Project development and preliminary results*. Poster presented at the American Psychology Law Society Conference, San Antonio, TX.

- Cowdry, R. W., Pickar, D., & Davies, R. (1985). Symptoms and EEG findings in the borderline syndrome. *International Journal of Psychiatry in Medicine*, 15, 201-211. doi: 10.2190/3Y0C-HAUK-04JX-GBPN
- Craig, L. A., Browne, K. D., & Beech, A. R. (2008). *Assessing risk in sex offenders: A practitioner's guide*. Chichester: Wiley.
- Damasio, A. R. (1996). The Somatic marker hypothesis and the possible functions of the prefrontal cortex. *Philosophical Transactions of the Royal Society B*, 351, 1413-1420. doi:10.1098/rstb.1996.0125
- Davidson, R. J. (2002). Anxiety and affective style: Role of prefrontal cortex and amygdala. *Biological Psychiatry*, 51, 68-80. doi: 10.1016/S0006-3223(01)01328-2
- Davis, M. H. (1980). A multi-dimensional approach to individual differences in empathy. *The Journal Supplement Abstract Service Catalogue to Selected Documents in Psychology*, 10, 85-104. Retrieved from http://www.uv.es/~friasnav/Davis_1980.pdf
- Dombrowski, S. C., LeMasney, J. W., Ahia, C. E., & Dickson, S. A. (2004). Protecting children from online sexual predators: Technological, psychoeducational, and legal considerations. *Professional Psychology: Research and Practice*, 35, 65-73, doi: 10.1037/0735-7028.35.1.65
- Durkin, K. (1997). Misuse of the Internet by pedophiles: Implications for law enforcement and probation practice. *Federal Probation*, 61, 14-18. Retrieved from <http://www.taasa.org/library /pdfs/TAASALibrary107>
- Eke, A. W., & Seto, M. C. (2009). *Ontario Sex Offender Registry sample independent of police case sample reported by Seto and Eke (2008)*. Unpublished raw data.
- Eke, A. W., & Seto, M. C. (2012). Risk assessment of child pornography offenders: Applications for law enforcement. In E. Quayle & K. Ribisl (Eds.), *Understanding and preventing online sexual exploitation of children* (pp. 148-168). Oxford: Routledge Publishing.

- *Eke, A. W., Seto, M. C., & Williams, J. (2011). Examining the criminal history and future offending of child pornography offenders: an extended prospective follow-up study. *Law and Human Behavior, 35*, 466-478. doi: 2011 10.1007/s10979-010-9252-2
- Ekman, P. (2003). *Emotions revealed: Recognizing faces and feelings to improve communication and emotional life*. New York: Times Books.
- Elliott, I. A., & Beech, A. R. (2009). Understanding online child pornography use: Applying sexual offense theory to Internet offenders. *Aggression and Violent Behavior, 14*, 180-193. doi: 10.1016/j.avb.2009.03.002
- *Elliott, I. A., Beech, A. R., & Mandeville-Norden, R. (2013). The psychological profiles of Internet, contact, and mixed Internet/contact sex offenders. *Sexual Abuse: A Journal of Research and Treatment, 25*, 3-20. doi: 10.1177/1079063212439426
- Elliott, I. A., Beech, A. R., Mandeville-Norden, R., & Hayes, E. (2009). Psychological profiles of Internet sexual offenders: Comparisons with contact sexual offenders. *Sexual Abuse: A Journal of Research and Treatment, 21*, 76-92. doi: 10.1177/1079063208326929
- Endler, N., & Parker, J. D. (1990). *Coping Inventory for Stressful Situations (CISS): Manual*. Toronto: Multihealth Systems.
- *Endrass, J., Urbaniak, F., Hammermeister, L. C., Benz, C., Elbert, T., Laubacher, A., & Rossegger, A. (2009). The consumption of Internet child pornography and violent sex offending. *BMC Psychiatry, 9*, 1-7. doi:10.1186/1471 244X-9-43
- Eysenck H. J., & Eysenck, S. G. (1975). *Manual of the Eysenck Personality Questionnaire*. London: Hodder & Stoughton.
- Fairfield, J. A. T. (2009). Virtual parentalism. *Washington and Lee Law Review, 66*, 1215-1243. Retrieved from <http://law.wlu.edu/deptimages/Law%20Review/66-3Fairfield.pdf>
- *Federal Bureau of Investigation. (2002). *Operation Candyman: Preliminary statistical report*. Retrieved from <http://www.fbi.gov/pressrel/pressrel02/cm031802.html>

- Field, A. P. (2005). Meta-analysis. In J. Miles & P. Gilbert (Eds.) *A handbook of research methods in clinical and health psychology* (pp. 295-308). Oxford: Oxford University Press.
- Field, A. P. (2009). *Discovering statistics using SPSS* (3rd ed.). London: Sage Publications
- Finkelhor, D. (1984). *Child sexual abuse: New theory and research*. New York: Free Press.
- Finkelhor, D., Mitchell K. J., & Wolak, J. (2000). *Online victimization: a report on the nation's youth*. (Research Report No. 6-00-020). Retrieved from National Center for Missing and Exploited Children website: <http://www.unh.edu/ccrc/pdf/jvq/CV38.pdf>
- Fisher, D., & Beech, A. R. (1998). Reconstructing families after sexual abuse: The offender's perspective. *Child Abuse Review*, 7, 420-434. doi: 10.1002/(SICI)1099-0852
- Frei, A., Erenay, N., Dittmann, V., & Graf, M. (2005). Pedophilia on the Internet – a study of 33 convicted offenders in the Canton of Lucerne. *Swiss Medical Weekly*, 135, 488-494. Retrieved from <http://www.smw.ch/docs/pdf200x/2005/33/smw-11095.pdf>
- *Galbreath, N. W., Berlin, F. S., & Sawyer, D. (2002). Paraphilias and the Internet. In A. Cooper (Ed.), *Sex and the Internet: A guidebook for clinicians* (pp. 187-205). Philadelphia, PA: Brunner-Routledge.
- Gallagher, B. (2007). Internet-initiated incitement and conspiracy to commit child sexual abuse (CSA): The typology, extent and nature of known cases. *Journal of Sexual Aggression*, 13, 101-119. doi: 10.1080/13552600701521363
- Gillespie, S. M., Mitchell, I. J., Fisher, D., & Beech, A. R. (2012). Treating disturbed emotional regulation in sexual offenders: The potential applications of mindful self-regulation and controlled breathing techniques. *Aggression and Violent Behavior*, 17, 333-343. doi: 10.1016/j.avb.2012.03.005
- *Goller, A., Graf, M., Frei, A., & Dittman, V. (2010). Recidivism of Internet sex offenders: An epidemiologic study on more than 4600 offenders in Switzerland. *European Psychiatry*, 25, 1533. Retrieved from [http://www.europsy-journal.com/article/S0924-9338\(10\)71516-9/](http://www.europsy-journal.com/article/S0924-9338(10)71516-9/)

- Gottman, J. M., & Katz, L. F. (1990). Effects of marital discord on young children's peer interaction and health. *Developmental Psychology*, 25, 373-381. doi: 10.1037/0012-1649.25.3.373
- Gray literature. (2006). In *Crossref glossary* (Version 1.0). Retrieved from http://www.crossref.org/02_publishers/glossary.html
- Greenberg, L. S., & Paivio, S. C. (1997). *Working with emotions in psychotherapy*. New York: Guilford Press.
- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2, 271-299. doi: 10.1037/1089-2680.2.3.271
- Gross, J. J., & John, O. P. (1995). Facets of emotional expressivity: Three self-report factors and their correlates. *Personality and Individual Differences*, 19, 555-568. doi: 10.1016/0191-8869(95)00055-B
- Gross, J. J., & John, O. P., (1997). Revealing feelings: Facets of emotional expressivity in self-reports, peer ratings, and behavior. *Journal of Personality and Social Psychology*, 2, 435-448. doi: 10.1037/0022-3514.72.2.435
- Gross, J. J., & Thompson, R. A. (2007). Emotion regulation: Conceptual foundations. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp 3-24). New York: Guilford Press.
- Grubin, D. (2006). *Polygraph pilot study: final report*. Retrieved, May 25, 2011 from <http://www.probation.homeoffice.gov.uk/files/pdf/Polygraph%20Pilot%20Report%20-%20July%202006.pdf>
- Guest, G., & MacQueen, K. M. (2008). Reevaluating guidelines for qualitative research. In G. Guest & K. MacQueen (Eds.), *Handbook for team-based qualitative research* (pp. 205-226). Lanham, MD: AltaMira Press.
- Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied thematic analysis*. Thousand Oaks, CA: Sage.
- Hall, G. C. N., & Hirschman, R. (1991). Towards a theory of sexual aggression: A quadripartite model. *Journal of Consulting and Clinical Psychology*, 55, 111-112. doi: 10.1080/10683160208401823

- Hanson, R. K., & Bussière, M. T. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology*, 66, 348-362. doi: 10.1037/0022-006X.66.2.348
- Hanson, R. K., Harris, A. J. R., Scott, T., & Helmus, L. (2007). *Assessing the risk of sexual offenders on community supervision: The Dynamic Supervision Project* (Corrections User Report No 2007-05). Ottawa, ON: Public Safety Canada.
- Hanson, R. K., & Morton-Bourgon, K. E. (2007). *The accuracy of recidivism risk assessments for sexual offenders: A meta-analysis*. User report 2007-1. Ottawa: Public Safety and Emergency Preparedness. Retrieved from http://www.publicsafety.gc.ca/res/cor/rep/_fl/vra_ipv_200707
- Hanson, R. K., & Thornton, D. (2000). Improving risk assessment for sex offenders: a comparison of three actuarial scales. *Law and Human Behavior*, 24, 119–136. doi: 10.1023/A:1005482921333
- Hare, R. D. (1966). Denial of threat and emotional response to impending painful stimulation. *Journal of Consulting Psychology*, 30, 359-361. doi: 10.1037/h0023547
- Hariri, A. R., Bookheimer, S. Y., & Mazziotta, J. C. (2000). Modulating emotional response: Effects of a neocortical network on the limbic system. *NeuroReport*, 11, 43-48. doi: 10.1097/00001756-200001170-00009
- Health Professions Council. (2007). *Standards of conduct, performance and ethics*. London: Health Professions Council
- Home Office. (2002). *The Offender Assessment System (OASys) user manual version 2*. London: Home Office.
- Howitt, D., & Sheldon, K. (2007). The role of cognitive distortions in paedophilic offending: Internet and contact offenders compared. *Psychology, Crime and Law*, 13, 469-486. doi: 10.1080/10683160601060564
- Internet World Stats (2013). *Internet usage statistics*. Retrieved from <http://www.internetworldstats.com/stats.html>

- Jaffe, M. E., & Sharma, K. K. (2001). Cybersex with minors: Forensic implications. *Journal of Forensic Sciences*, 46, 1397-1402. doi: 10.1520/JFS15162J
- Jespersen, A. F., Lalumière, M. L., & Seto, M. C. (2009). Sexual abuse history among adult sex offenders and non-sex offenders: A meta-analysis. *Child Abuse and Neglect*, 33, 179-192. doi:10.1016/j.chiabu.2008.07.004
- Johnson, S. L. (2005). Mania and dysregulation in goal pursuit: A review. *Clinical Psychology Review*, 25, 241-262. doi: 10.1012/j.cpr.2004.11.002
- Jones, T., Caulfield, L., Wilkinson, D., & Wilson, D. (2011, May). *The role of the Internet in creating, normalising and reinforcing sexual fantasies*. Poster presented at the meeting of the British Psychological Society, Glasgow, UK.
- Jones, V., & Skogrand, E. (2005). *Position paper regarding online images of sexual abuse and other Internet related sexual exploitation of children*. Retrieved from <http://resourcecentre.savethechildren.se/>
- Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present and future. *Clinical Psychology: Science and Practice*, 10, 144-156. doi: 10.1093/clipsy/bpg016
- Kafka, M. P. (2010). Hypersexual disorder: A proposed diagnosis for DSM-V. *Archives of Sexual Behavior*, 39, 377-400. doi: 10.1007/s10508-009-9574-7
- Kashdan, T. B., Barrios, V., Forsyth, J. P., & Steger, M. F. (2006). Experiential avoidance as a generalised psychological vulnerability: Comparisons with coping and emotion regulation strategies. *Behaviour Research and Therapy*, 44, 1301-1320. doi: 10.1016/j.brat.2005.10.003
- Khan, K. S., ter Riet, G., Popay, J., Nixon, J., & Kleijnen, J. (2001). *Study quality assessment*. Retrieved from <http://www.medicine.mcgill.ca/rtamblyn/Readings\UK Guide-Study Quality Assessment.pdf>
- Kingston, D. A., Federoff, P., Firestone, P., Curry, S., & Bradford, J. M. (2008). Pornography use and sexual aggression and type of pornography use on recidivism among sexual offenders. *Aggressive Behavior*, 34, 341-351. doi: 10.1002/ab.20250

- Kline, P. (1986). *A handbook of test construction: Introduction to psychometric design*. New York: Methuen.
- Kmet, L. M., Lee, R. C., & Cook, L., S. (2004). *Standard quality assessment criteria for evaluating primary research papers from a variety of fields*. Alberta Heritage Foundation for Medical Research, Canada.
- Koerner, K., & Dimeff, L. (2007). Overview of DBT. In L. Dimeff & L. Koerner (Eds.), *Dialectical Behavior Therapy in clinical practice* (pp. 1-18). New York: Guilford Press.
- Krone, T. (2004). A typology of online child pornography offending. *Trends and Issues in Crime and Criminal Justice*, 279, 1-6. Retrieved from <http://aic.gov.au/documents/E/3/7/%7BE37FCBE7-275D-430A-AB6D31886B4C9FF9%7Dcfi084>
- Kurasaki, K. S. (2000). Intercoder reliability for validating conclusions drawn from open-ended interview data. *Field Methods*, 12, 179-194. doi: 10.1177/1525822X0001200301
- Laier, C., Pawlikowski, M., Pekal, J., Schulte, F. P., & Brand, M. (2013). Cybersex addiction: Experienced sexual arousal when watching pornography and not real-life sexual contacts makes the difference. *Journal of Behavioral Addictions*, 2, 100-107. doi: 10.1556/JBA.2.2013.002
- Lam, A., Mitchell, J., & Seto, M. C. (2010). Lay perceptions of child pornography offenders. *Canadian Journal of Criminology and Criminal Justice*, 52, 173-201. doi: 10.3138/cjccj.52.2.173
- Landis, J. R., Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33, 159-174. doi: 10.2307/2529310
- Lanning, K. V. (2001). *Child molesters: A behavioral analysis* (5th ed.). Retrieved from http://www.ncmec.org/en_US/publications/NC70

- *Laulik, S., Allam, J., & Sheridan, L. (2007). An investigation into maladaptive personality functioning in Internet sex offenders. *Psychology, Crime and Law*, 13, 523-535. doi: 10.1080/10683160701340577
- Leander, L., Christianson, S. A., & Granhag, P. A. (2007). A sexual abuse case study: Children's memories and reports. *Psychiatry, Psychology and Law*, 14, 120-129. doi: 10.1375/pplt.14.1.120
- Leander, L., Christianson, S. A., & Granhag, P. A. (2008). Internet-initiated sexual abuse: Adolescent victims' reports about on- and off-line sexual activities. *Applied Cognitive Psychology*, 22, 1260-1274. doi: 10.1002/acp.1433
- *Lee, A. F., Li, N., Lamade, R., Schuler, A., & Prentky, R. A. (2012). Predicting hands-on child sexual offenses among possessors of Internet child pornography. *Psychology, Public Policy, and Law*, 18, 644-672. doi: 0.1037/a0027517
- Lenhart, A., Madden, M., Macgill, A. R., & Smith, A. (2007). *Teens and social media: The use of social media gains a greater foothold in teen life as they embrace the conversational nature of interactive online media*. Washington, DC: Pew Internet & American Life.
- Liddle, J., Williamson, M., & Irwig, L. (1996). *Improving healthcare and outcomes: Method for evaluating research guideline evidence*. Retrieved from New South Wales Health Department website: <http://www0.health.nsw.gov.au/pubs/1996/pdf/mergetot.pdf>
- Lieberman, M. D., Eisenberger, N. I., Crockett, M. J., Tom, S. M., Pfeifer, J. H., & Way, B. M. (2007). Putting feelings into words: Affect labeling disrupts amygdala activity in response to affective stimuli. *Psychological Science*, 18, 421-428. doi: 10.1111/j.1467-9280.2007.01916.x
- Lieberman, M. D., Hariri, A., Jarcho, J. J., Eisenberger, N. I., & Bookheimer, S. Y. (2005). An fMRI investigation of race-related amygdala activity in African-American and Caucasian-American individuals. *Nature Neuroscience*, 8, 720-722. doi: 10.1038/nn1465
- Linehan, M. M. (1993). *Cognitive behavioral treatment of Borderline Personality Disorder*. New York: Guilford Press.

- Linehan, M. M., Bohus, M., & Lynch, T. R. (2007). Dialectical Behavior Therapy for pervasive emotion dysregulation. In J. Gross (Ed.) *Handbook of emotion regulation* (pp. 581-605). New York: Guilford Press.
- Lok, C., & Bishop, G. D. (1999). Emotion control, stress and health. *Psychology and Health*, 14, 813-827. doi: 10.1080/08870449908407349
- Long, M. L., Alison, L. A., & McManus, M. A. (2013). Child pornography and likelihood of contact abuse: A comparison between contact child sexual offenders and noncontact offenders. *Sexual Abuse: A Journal of Research and Treatment*, 25, 370-395. doi: 10.1177/1079063212464398
- Lösel, F., & Schmucker, M. (2003). *Protocol for a systematic review of the effects of sexual offender treatment*. Retrieved from the Campbell Library, Campbell Collaboration Library of systematic reviews website: <http://campbellcollaboration.org/lib/project/53/>
- Mancini, C., Reckdenwald, A., & Beauregard, E. (2012). Pornographic exposure over the life course and the severity of sexual offences: Imitation and cathartic effects. *Journal of Criminal Justice*, 40, 21-30. doi:10.1016/j.jcrimjus.2011.11.004
- Mansfield-Devine, S. (2009). Darknets. *Computer Fraud and Security*, 12, 4-6. doi: 10.1016/S1361-3723(09)70150-2
- Marshall, W. L., & Barbaree, H. E. (1990). An integrated theory of the etiology of sexual offending. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), *Handbook of sexual assault: Issues, theories, and treatment of the offender* (pp. 257-275). New York: Plenum.
- McDougall, C., Venables, P., & Roger, D., (1991). Aggression, anger control and emotion control. *Personality and Individual Differences*, 12, 625-629. doi: 10.1016/0191-8869(91)90260-I
- McLaughlin, J. F. (2000). *Cyber child sex offender typology*. Keene, NH: Keene Police Department. Retrieved from <http://www.ci.keene.nh.us/police/Typology.html>

- McManus, M. A., & Almond, L. (2014). Trends of indecent images of children and child sexual offences between 2005/2006 and 2012/2013 within the United Kingdom. *Journal of Sexual Aggression*, 202, 142-155. doi: 10.1080/13552600.2014.893031
- McQuade, S. (Ed). (2009). *The encyclopedia of cybercrime*. Westport, CT: Greenwood Press.
- Mercado, C. C., Merdian, H. L., & Egg, R. (2011). The Internet and sexual offending: An international perspective. In D.P. Boer, R. Eher, L.A. Craig, M.H Miner & F. Pfafflin (Eds.), *International perspectives on the assessment and treatment of sexual offenders: Theory, practice, and research* (pp. 507-524). Chichester: John Wiley & Sons, Ltd.
- Middleton, D. (2009). Internet sex offenders. In A. R. Beech, L. A. Craig & K. D. Browne (Eds.), *Assessment and treatment of sex offenders: A handbook* (pp. 199-215). New York: John Wiley & Sons Ltd.
- Middleton, D., Elliott, I. A., Mandeville-Norden, R., & Beech, A. R. (2006). An investigation into the applicability of the Ward and Siegert Pathways Model of child sexual abuse with Internet offender. *Psychology, Crime and Law*, 12, 589-603. doi: 10.1080/10683160600558352
- Middleton, D., & Hayes, E. (2006). Internet Sex Offender Treatment Programme Theory Manual. London: National Offender Management Service (NOMS) Interventions Unit, Ministry of Justice.
- Middleton, D., Mandeville-Norden, R., & Hayes, E. (2009). Does treatment work with Internet sex offenders? Emerging findings from the Internet Sex Offender Treatment Programme (i-SOTP). *Journal of Sexual Aggression*, 15, 5-19. doi: 10.1080/13552600802673444
- Millon, T., Davis, R. D., & Millon, C. (1997) *Manual for the Millon Clinical Multiaxial Inventory-III (MCMI-III)* (2nd ed.). Minneapolis, MN: National Computer Systems.
- Miranda, A. O., & Corcoran, C. L. (2000). Comparison of perpetration characteristics between male juvenile and adult sexual offenders: Preliminary results. *Sexual Abuse: Journal of Research and Treatment*, 12, 179–188. doi: 10.1023/A:1009582025086

- Mitchell, K. J., Finkelhor, D., Jones, L. M., & Wolak, J. (2010) Use of social networking sites in online sex crimes against minors: An examination of national incidence and means of utilization. *Journal of Adolescent Health, 47*, 183-190.
doi:10.1016/j.jadohealth.2010.01.007
- Mitchell, K. J., Finkelhor, D., & Wolak, J. (2001). Risk factors for and impact of online sexual solicitation of youth. *Journal of the American Medical Association, 285*, 3011-3014. doi: 10.1001/jama.285.23.3011
- Mitchell, K. J., Finkelhor, D., & Wolak, J. (2007). Online requests for sexual pictures from youth: Risk factors and incident characteristics. *Journal of Adolescent Health, 41*, 196-203. doi:10.1016/j.jadohealth.2007.03.013
- Mitchell, K. J., & Wells, M. (2007). Problematic Internet experiences: primary or secondary presenting problems in persons seeking mental health care? *Social Science and Medicine, 65*, 1136-1141. doi: 10.1016/j.socscimed.2007.05.015
- Morey, L. C. (1991). *The Personality Assessment Inventory: Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Morse, J., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods, 1*, 1-19. Retrieved from <https://ejournals.library.ualberta.ca/index.php/IJQM/article/view/4603/3756>
- Motivans, M., & Kyckelhahn, T. (2007). *Federal prosecution of child sex exploitation offenders*. (Research Report no. NCJ 219412). Retrieved from U.S. Department of Justice, Bureau of Justice Statistics website:
<http://www.bjs.gov/content/pub/pdf/fpcseo06.pdf>
- *Neutze, J., Grundmann, D., Scherner, G., & Beier, K. M. (2012). Undetected and detected child sexual abuse and child pornography offenders. *International Journal of Law and Psychiatry, 35*, 168-175. doi: 10.1016/j.ijlp.2012.02.004
- Neutze, J., Seto, M. C., Schaefer, G. A., Mundt, I. A., & Beier, K. M. (2011). Predictors of child pornography offenses and child sexual abuse in a community sample of

- pedophiles and hebephiles. *Sexual Abuse: A Journal of Research and Treatment*, 23, 212-242. doi: 10.1177/1079063210382043
- Nielssen, O., O'Dea, J., Sullivan, D., Rodriguez, M., Bourget, D., & Large, M. (2011). Child pornography offenders detected by surveillance of the Internet and by other methods. *Criminal Behaviour and Mental Health*, 21, 215-224. doi: 10.1002/cbm.809
- *Niveau, G. (2010). Cyber-pedocriminality: Characteristics of a sample of Internet child pornography offenders. *Child Abuse and Neglect*, 34, 570-575.
doi:10.1016/j.chiabu.2010.01.011
- Nolen-Hoeksema, S., Stice, E., Wade, E., & Bohon, C. (2007). Reciprocal relations between rumination and bulimic, substance abuse, and depressive symptoms in female adolescents. *Journal of Abnormal Psychology*, 116, 198-207. doi: 10.1037/0021-843X.116.1.198
- Noll J. G., Shenk, C. E., Barnes J. E., & Putnam, F. W. (2009). Childhood abuse, avatar choices, and other risk factors associated with Internet-initiated victimization of adolescent girls. *Pediatrics*, 123, 1078-1083. doi: 10.1542/peds.2008-2983
- O'Connell, R. (2004). From fixed to mobile Internet: the morphing of criminal activity online. In M. Calder (Ed.), *Child sexual abuse and the Internet: Tackling the new frontier* (pp. 37-55). Lyme Regis: Russell House Publishing.
- Ochsner, K. N. & Gross, J. J. (2005). The cognitive control of emotion. *Trends in Cognitive Sciences*, 9, 242-249. doi: 10.1016/j.tics.2005.03.010
- O'Donnell, I., & Milner, C. (2007). *Child pornography: Crime, computers and society*. Devon: Willan Publishing.
- Osborn, J., Elliott, I. A., Middleton, D., & Beech, A. R. (2009). *The suitability of the Risk Matrix 2000 for use with Internet offenders*. Unpublished manuscript.
- *Osborn, J., Elliott, I. A., Middleton, D., & Beech, A. R. (2010). The use of actuarial risk assessment measures with UK Internet child pornography offenders. *Journal of Aggression, Conflict and Peace Research*, 2, 16-24. doi: 10.5042/jacpr.2010.0333

- Ospina, M., Harstall, C., & Denett, L. (2010). *Sexual exploitation of children and youth over the Internet: A rapid review of the scientific literature*. Retrieved from Institute of Health Economics, Canada website:
<http://www.ihe.ca/documents/Online%20Sexual%20Exploitation.pdf>
- Palmer, T., & Stacey, L. (2004). *Just one click: Sexual abuse of children and young people through the Internet and mobile telephone technology*. Ilford, Essex: Barnardo's.
- Patton, M. Q. (2002). *Qualitative research and evaluation method, third edition*. Thousand Oaks, CA: Sage.
- Pennebaker, J. W. (1989). Confession, inhibition, and disease. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (pp. 211-244). San Diego, CA: Academic Press.
- Pew Internet and American Life Project. (2001). *Teenage life online: The rise of the instant-message generation and the internet's impact on friendships and family relationships*. Retrieved from <http://www.pewinternet.org>
- Pew Internet and American Life Project. (2012). *Teen Internet access demographics*. Retrieved from <http://www.pewinternet.org/Static-Pages/Trend-Data-%28Teens%29/Whos-Online.aspx>
- Politis, M., Loane, C., Wu, K., O'Sullivan, S. S., Woodhead, Z., Kiferle, L., . . . Piccini, P. (2013). Neural response to dopamine treatment-linked hypersexuality in Parkinson's disease. *Brain*, 136, 400-411. doi: 10.1093/brain/aws326
- Quayle, E., Holland, G., Linehan, C., & Taylor, M. (2000). The Internet and offending behaviour: A case study. *The Journal of Sexual Aggression*, 6, 78-96. doi: 10.1080/13552600008413311
- Quayle, E., & Jones, T. (2011). Sexualised images of children on the Internet. *Sexual Abuse: A Journal of Research and Treatment*, 23, 7-21. doi: 10.1177/1079063210392596
- Quayle, E., & Taylor, M. (2002). Child pornography and the Internet: Perpetuating a cycle of abuse. *Deviant Behavior*, 23, 331 – 361. Retrieved from

<http://www.innovationlaw.org/Assets/CILP>

+Digital+Assets/events/Symposium2007/TaylorQuayle2002deviant_behaviour

- *Quayle, E., & Taylor, M. (2003). Model of problematic Internet use in people with sexual interest in children. *CyberPsychology and Behavior*, 6, 93-106. doi: 10.1089/109493103321168009
- Quayle, E., Vaughan, M., & Taylor, M. (2006). Sex offenders, Internet child abuse images and emotional avoidance: The importance of values. *Aggression and Violent Behavior*, 11, 1-11. doi: 10.1016/j.avb.2005.02.005
- Ray, J. V., Kimonis, E. R., & Donoghue, C. (2010). Legal, ethical and methodological considerations in the Internet-based study of child pornography offenders. *Behavioral Sciences and the Law*, 28, 84-105. doi: 10.1002/bsl.906
- Reigel, D. L. (2004). Effects on boy-attracted pedosexual males of viewing boy erotica (letter to the editor). *Archives of Sexual Behavior*, 33, 321-323. doi: 10.1023/B:ASEB.0000029071.89455.53
- Rice, K. M., & Blanchard, E. B. (1982). Biofeedback in the treatment of anxiety disorders. *Clinical Psychology Review*, 2, 557-577. doi: 10.1016/0272-7358(82)90030-7
- Rickert, V. I., & Ryan, O. (2007). Is the Internet the Source? *Journal of Adolescent Health*, 40, 104-105. doi: 10.1016/j.jadohealth.2006.12.001
- Roger, D., de la Banda, G. G., Lee, H. S., & Olason, T. (2001). A factor-analytic study of cross-cultural differences in emotional rumination and emotional inhibition. *Personality and Individual Differences*, 31, 227-238. doi: 10.1016/S0191-8869(00)00131-8
- Roger, D., & Jamieson, J. (1988). Individual differences in delayed heart-rate recovery following stress: The role of extraversion, neuroticism and emotional control. *Personality and Individual Differences*, 9, 721-726. doi: 10.1016/0191-8869(88)90061-X

- Roger, D., & Najarian, B. (1989). The construction and validation of a new scale for measuring emotional control. *Personality and Individual Differences*, 10, 845-853. doi: 10.1016/0191-8869(89)90020-2
- Roger, D., & Najarian, B. (1998). The relationship between emotional rumination and cortisol secretion under stress. *Personality and Individual Differences*, 24, 531-538. doi: 10.1016/S0191-8869(97)00204-3
- Roger, D., & Neshoever, W. (1987). The construction and preliminary validation of a scale for measuring emotional control. *Personality and Individual Differences*, 8, 527-534. doi: 10.1016/0191-8869(87)90215-7
- Roger, D., & Schalpas, T. (1996). Repression-sensitization and emotion control. *Current Psychology*, 15, 30-37. doi: 10.1007/BF02686931
- Rottenberg, J., & Gross, J. J. (2003). When emotion goes wrong: Realizing the promise of affective science. *Clinical Psychology Science and Practice*, 10, 227-232. doi: 10.1093/clipsy.bpg012
- Saldaña, J. (2009). *The coding manual for qualitative researchers*. Thousand Oaks, CA: Sage.
- Sentencing Council (2013). *Sexual offences: A response to consultation*. Retrieved from http://sentencingcouncil.judiciary.gov.uk/docs/Final_Sexual_Offences_Response_to_Consultation_%28web%29.pdf
- Sentencing Guidelines Council (2007). *Sexual Offences Act 2003: Definitive guideline*. Retrieved from http://sentencingcouncil.judiciary.gov.uk/docs/web_SexualOffencesAct_2003.pdf
- Seto, M. C. (2013). *Internet sex offenders*. Washington, DC: American Psychological Association.
- *Seto, M. C., Cantor, J. M., & Blanchard, R. (2006). Child pornography offenses are a valid diagnostic indicator of pedophilia. *Journal of Abnormal Psychology*, 115, 610-615. doi:10.1037/0021-843X.115.3.610

- Seto, M. C., & Eke, A. W. (2005). The criminal histories and later offending of child pornography offenders. *Sexual Abuse: A Journal of Research and Treatment*, 17, 201-210. doi:10.1007/s11194-005-4605-y
- Seto, M. C., & Eke, A. W. (2008, October). *Predicting new offenses committed by child pornography offenders*. Paper presented at the 27th Annual Conference of the Association for the Treatment of Sexual Abusers, Atlanta, GA.
- Seto, M. C., Hanson, R. K., & Babchishin, K. M. (2011). Contact sexual offending by men with online sexual offenses. *Sexual Abuse: A Journal of Research and Treatment*, 23, 124-145. doi:10.1177/1079063210369013
- *Seto, M. C., Reeves, L., & Jung, S. (2010). Explanations given by child pornography offenders for their crimes. *Journal of Sexual Aggression*, 16, 169-180. doi: 10.1080/13552600903572396
- *Seto, M. C., Wood, J. M., Babchishin, K. M., & Flynn, S. (2012). Online solicitation offenders are different from child pornography offenders and lower risk contact sexual offenders. *Law and Human Behavior*, 36, 320-330. doi: 10.1037/h0093925
- Shannon, D. (2008). Online sexual grooming in Sweden: Online and offline sex offences against children as described in Swedish Police data. *Journal of Scandinavian Studies in Criminology and Crime Prevention*, 9, 160-180. doi:10.1080/14043850802450120
- Sheldon, K. (2011). What we know about men who download child abuse images. *The British Journal of Forensic Practice*, 13, 221-234. doi: 10.1108/14636641111189981
- Sheldon, K. (2012). Internet sex offences. In B. Winder, & Banyard, P. (Eds.), *A psychologist's casebook of crime: From arson to voyeurism* (pp.117-137). London: Palgrave Macmillan.
- Sheldon, K., & Howitt, D. (2007). *Sex offenders and the Internet*. Chichester: Wiley.
- Sheldon, K., & Howitt, S. (2008). Sexual fantasy in paedophile offenders: Can any model explain satisfactorily new findings from a study of Internet and contact sexual offenders? *Legal and Criminological Psychology*, 13, 137-158. doi: 10.1348/135532506X173045.

- Singh, N., Lancioni, G. E., Winton, A. S., Adkins, A. D., Wahler, R. G., Sabaawi, M., & Singh, J. (2007). Individuals with mental illness can control their aggressive behavior through mindfulness training. *Behavior Modification*, 31, 313-328. doi: 10.1177/0145445506293585
- Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis*. London: Sage.
- Spielberger, C. D., Gorsuch, R. L., & Lushene, R. (1970). *Manual for the State-Trait Anxiety Inventory (STAI)*. Palo Alto, CA: Consulting Psychologists Press.
- Stanley, J. (2001). Child abuse and the Internet. *Child Abuse Prevention Issues*, 15, 1–18. Retrieved from <http://www.aifs.gov.au/nch/pubs/issues/issues15/issues15.html>
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.
- Sullivan, J. & Beech, A. R. (2004). Assessing Internet sex offenders. In M. C. Calder (Ed.), *Child sexual abuse and the Internet: Tackling the new frontier* (pp.69-84). Trowbridge: Cornwell Press.
- Taylor, M., Holland, G., & Quayle, E. (2001). Typology of paedophile picture collections. *Police Journal*, 74, 97-107.
- Taylor, M., & Quayle, E. (2003). *Child pornography: An Internet crime*. Brighton, UK: Routledge.
- Thornton, D. (2002). Constructing and testing a framework for dynamic risk assessment. *Sexual Abuse: A Journal of Research and Treatment*, 14, 137-151. doi: 1079-0632/02/0400-0139/0
- Thornton, D. (2007). *Scoring Guide for Risk Matrix 2000.9/SVC*. Retrieved from <http://www.bhamlive1.bham.ac.uk/Documents/colleges/psych/RM2000scoringinstruction>
- Thornton, D. (2012, May). *Implications of findings in neuroscience for the treatment of sexual offenders*. Paper presented at the meeting of the National Organisation for the Treatment of Sexual Abusers, Polmont, Scotland, UK.

- Thornton, D., Mann, R., Webster, S., Blud, L., Travers, R., Friendship, C., & Erickson, M. (2003). Distinguishing between and combining risks for sexual and violent recidivism. In R. A. Prentky, E.S. Janus, M. C. Seto & A. W. Burgess (Eds.), *Understanding and Managing Sexually Coercive Behavior*. Annals of the New York Academy of Sciences, 989, 225-235.
- Tice, D. M., & Wallace, H. (2000). Mood and emotion control: Some thoughts on the state of the field. *Psychological Inquiry*, 3, 214-217. doi: 10.1207/S15327965PLI1103_06
- Tomak, S., Weschler, F. S., Ghahramanlou-Holloway, M., Virden, T., & Nademin, M. E. (2009). An empirical study of the personality characteristics of Internet sex offenders. *Journal of Sexual Aggression*, 15, 139-148. doi: 10.1080/13552600902823063
- Urry, H. L., van Reekum, C. M., Johnstone, T., Kalin, N. H., Thurow, M. E., Scafer, H. S., et al. (2006). Amygdala and ventromedial prefrontal cortex are inversely coupled during regulation of negative affect and predict the diurnal pattern of cortisol secretion among older adults. *The Journal of Neuroscience*, 26, 4415-4425. doi: 10.1523/JNEUROSCI.3215-05.2006
- Van Dijk, S. (2012). *DBT made simple: A step-by-step guide to Dialectical Behavioural Therapy*. Oakland, CA: New Harbinger Publications, Inc.
- Walsh, W. A., & Wolak, J. (2005). Nonforcible Internet-related sex crimes with adolescent victims: Prosecution issues and outcomes. *Child Maltreatment*, 10, 260-271. doi: 10.1177/1077559505276505
- Ward, T. (2000). Sexual offenders' cognitive distortions as implicit theories. *Aggression and Violent Behavior*, 5, 491-507. doi: 10.1016/S1359-1789(98)00036-6
- Ward, T., & Beech, A. R. (2006). An integrated theory of sexual offending. *Aggression and Violent Behavior*, 11, 44-63. doi:10.1016/j.avb.2005.05.002
- Ward, T., & Hudson, S. (2000). A self-regulation model of relapse prevention. In D. R. Laws, S. M. Hudson, & T. Ward (Eds.), *Remaking relapse prevention with sex offenders: A sourcebook* (pp. 79-101). Thousand Oaks, CA: Sage.

- Ward, T., & Keenan, T. (1999). Child molesters' implicit theories. *Journal of Interpersonal Violence, 14*, 821-838. doi: 10.1177/088626099014008003
- Ward, T., & Siegert, R. J. (2002). Toward a comprehensive theory of child sexual abuse: A theory knitting perspective. *Psychology, Crime and Law, 8*, 319-351. doi: 10.1080/10683160208401823
- Watson, D., & Sinha, B. (2008). Emotion regulation, coping, and psychological symptoms. *International Journal of Stress Management, 15*, 222-234. doi: 10.1037/1072-5245.15.3.222
- *Webb, L., Craissati, J., & Keen, S. (2007). Characteristics of Internet child pornography offenders: A comparison with child molesters. *Sexual Abuse: A Journal of Research and Treatment, 19*, 449-465. doi:10.1007/s11194-007-9063-2
- Wegner, D. M., Broome, A., & Blumberg, S. J. (1997). Ironic effects of trying to relax under stress. *Behaviour Research and Therapy, 35*, 11-21. doi: 10.1016/S0005-7967(96)00078-2
- Werner, K., & Gross, J. J. (2010). Emotion regulation and psychopathology. In A. M. Kring & D. M. Sloan (Eds.), *Emotion regulation and psychopathology: A transdiagnostic approach to etiology and treatment* (pp. 13-37). New York: Guilford Press.
- Wetterneck, C. T., Burgess, A. J., Short, M. B., Smith, A. H., & Cervantes, M. E. (2012). The role of sexual compulsivity, impulsivity, and experiential avoidance in Internet pornography use. *The Psychological Record, 62*, 2-18.
- Whitaker, D. J., Brenda, L., Hanson, R. K., Baker, C. K., McMahon, P. M., Ryan, G., Klein, A., & Rice, D. D. (2008). Risk factors for the perpetration of child sexual abuse: A review and meta-analysis. *Child Abuse and Neglect, 32*, 529-548. doi:10.1016/j.chiabu.2007.08.005
- Wilcox, D., Sosnowski, D., Warberg, B., & Beech, A. R. (2005). Sexual history disclosure using the polygraph in a sample of British sex offenders in treatment. *Polygraph, 34*, 171-183. Retrieved from <http://www.polygraph.org/>

- Wilkinson-Tough, M., Bocci, L., Thorne, K., & Herlihy, J. (2010). Is mindfulness-based therapy an effective intervention for obsessive-intrusive thoughts: A case series. *Clinical Psychology and Psychotherapy*, 17, 250-268. doi: 10.1002/cpp.665.
- Wolak, J., Finkelhor, D., & Mitchell, K. J. (2004). Internet-initiated sex crimes against minors: Implications for prevention based on findings from a national study. *Journal of Adolescent Health*, 35, 424.e11-424.e20. doi: 10.1016/j.jadohealth.2004.05.006
- *Wolak, J., Finkelhor, D., & Mitchell, K. J. (2005). *Child pornography possessors arrested in Internet-related crimes: Findings from the National Online Victimization Study*. Retrieved from http://www.missingkids.com/en_US/publications/NC144.pdf
- Wolak, J., Finkelhor, D., & Mitchell, K. J. (2009). *Trends in arrests of "online predators"*. Retrieved from Crime Against Children Research Center website: <http://www.unh.edu/ccrc/pdf/cv194.pdf>
- *Wolak, J., Finkelhor, D., & Mitchell, K. J. (2011). Child pornography posessors: Trends in offender and case characteristics. *Sexual Abuse: A Journal of Research and Treatment*, 23, 22-42. doi:10.1177/1079063210372143
- Wolak, J., Finkelhor, D., Mitchell, K. J., & Ybarra, M. L. (2008). Online "predators" and their victims: Myths, realities, and implications for prevention and treatment. *American Psychologist*, 63, 111-128. doi:10.1037/0003-06X.63.2.111
- Wolak, J., Mitchell, K. J., & Finkelhor, D. (2003). Escaping or connecting? Characteristics of youth who form close online relationships. *Journal of Adolescence*, 26, 105-119. doi: 10.1016/S0140-1971(02)00114-8
- *Wollert, R., Waggoner, J., & Smith, J. (2009, October). *Child pornographer offenders do not have florid offense histories and are unlikely to recidivate*. Paper presented at the 28th Annual Conference of the Association of the Treatment of Sexual Abusers, Dallas, TX.
- Wood, H. (2011). The Internet and its role in the escalation of sexually compulsive behaviour. *Psychoanalytic Psychotherapy*, 25, 127-142. doi: 10.1080/02668734.2011.576492

- Wood, J. M., Seto, M. C., Flynn, S., Wilson-Cotton, S., & Dedmon, P. (2009, October). *Is it "just" pictures? The use of polygraph with Internet offenders who deny abusive sexual contact*. Poster presented at the 28th Annual Conference of the Association of the Treatment of Sexual Abusers, Dallas, TX.
- Wortley, R., & Smallbone, S. (2006). *Child pornography on the Internet. Problem-oriented guides for police series*. Retrieved from USA Department of Justice website: http://www.popcenter.org/problems/child_pornography/print/
- Yan, Z. (2006). What influences children's and adolescents' understanding of the complexity of the Internet? *Developmental Psychology*, 42, 418-428. doi: 10.1037/0012-1649.42.3.418
- Yar, M. (2006). *Cybercrime and society*. London: Sage.
- Ybarra, M. L., & Mitchell, K. J. (2008). How risky are social networking sites? A comparison of places online where youth sexual solicitation and harassment occurs. *Paediatrics*, 121, e350-e357. doi: 10.1542/peds.2007-0693



APPENDICES

APPENDIX A. Factors which place youths at a greater risk of online sexual victimisation.

There are a number of psychosocial factors present in the population of child and adolescent victims of online sexual offending which are thought to place them at increased risk of succumbing to the abuse types, listed above. In their review of telephone interviews with 1,501 Internet users, aged 10-17, in the USA, Wolak, Finkelhor and Mitchell (2003) observed that there is a cultural expectation amongst youths to meet their social needs via digital and online services. Dombrowski, LeMasney, Ahia and Dickson (2004) posited that users of virtual forums (such as social media sites and chat rooms), aged under 18, may be more vulnerable to online sexual solicitation as a result of their developmental desire for interpersonal validation and acceptance. The positive attention, compliments and gifts which offenders offer their potential victims as part of the grooming process, act to satisfy these desires (Jaffe & Sharma, 2001; Leander, Christianson, & Granhag, 2008; Wolak, Finkelhor, & Mitchell, 2004). Once this virtual relationship pattern has been established, victims have been found to be more likely to comply with requests to share sexually explicit material of themselves, receive sexual material from the offender, and meet the offender offline (Mitchell, Finkelhor, & Wolak, 2001; Mitchell et al., 2010; Wolak et al., 2004).

Adolescents aged over 14 have been found to be at greater risk of being sexually victimised online than younger individuals, which is attributed to their developing sexual curiosity, greater degree of behavioural freedom and ease of access to unsupervised Internet-providing technologies (Finkelhor, Mitchell, & Wolak, 2000; Mitchell et al., 2001; Rickert & Ryan, 2007; Yan, 2006). Several factors have been found to compound the risk of a young person being targeted online for sexually abusive practices, including the presence of substance abuse difficulties (Noll, Shenk, Barnes, & Putnam, 2009), exposure to parental conflict at

home (Mitchell & Wells, 2007) and concurrent physical and/or other sexual abuse (Mitchell & Wells, 2007; Noll et al., 2009; Stanley, 2001). The occurrence of these negative life events likely renders potential victims more receptive to the positive attention of an online offender.

APPENDIX B. Classification schemes of IIOC.

When this thesis was first drafted, the Sentencing Advisory Panel operated using a five-tier scale to refer to the level of seriousness of indecent images of children used by offenders, when undertaking judicial activities (Sentencing Guidelines Council, 2007). This scale was used by participants recruited in Study 2 to discuss their offending.

Table B.1 The levels of seriousness (in ascending order) for sentencing for offences involving pornographic images, taken from Sentencing Guidelines Council (2007), and also cited in Beech et al (2008).

Level	Description of Picture qualities
1	Images depicting erotic posing with no sexual activity
2	Non-penetrative sexual activity between children, or solo masturbation by a child
3	Non-penetrative sexual activity between adults and children
4	Penetrative sexual activity involving a child or children, or both children and adults
5	Sadism or penetration of, or by, an animal

Offences involving any form of sexual penetration of the vagina or anus, or penile penetration of the mouth (except where they involve sadism or intercourse with an animal, which fall within level 5), should be classified as activity at level 4.

Following a response to consultation undertaken by the Sentencing Council between 2011 and 2012, a proposal to simplify the classification system was upheld, reducing the number of categories to three (Sentencing Council, 2013).

Table B.2 The revised current classification system of the level of seriousness of indecent images of children, taken from Sentencing Council (2013).

Category	Description of Picture qualities
A	Images involving penetrative sexual activity, sexual activity with an animal or sadism
B	Images involving non-penetrative sexual activity
C	Images of erotic posing

A further proposal to revise the term “erotic posing” to “other indecent images not falling within categories A or B” was suggested within the consultation due to concerns that the former term implies intention on the part of the child victim. However, the proposal was not upheld. The imperfect nature of the wording “erotic posing” was acknowledged, but the term was still retained in light of the additional difficulties envisaged by changing it. The alternative suggested term was considered too broad, and more likely to encapsulate innocuous pictures, for instance, those taken by parents. Additionally, it was felt that by the time the guidelines become pertinent to a case, the images will have already been seen to be indecent on the basis of a conviction (Sentencing Council, 2013).

Table B.3. Typologies of images of sexualised images of children, as determined by COPINE, taken from Taylor et al, (2001), and also cited in Beech et al (2008).

Level	Name	Description of Picture Qualities
1	Indicative	Non-erotic and non-sexualised pictures showing children in their underwear, swimming costumes, etc. from either commercial sources or family albums; pictures of children playing in normal settings, in which the context or organisation of pictures by the collector indicates inappropriateness.
2	Nudist	Pictures of naked or semi-naked children in appropriate nudist settings, and from legitimate sources.
3	Erotica	Surreptitiously taken photographs of children in play areas or other safe environments showing either underwear or varying degrees of nakedness.
4	Posing	Deliberately posed pictures of children fully, partially clothed or naked {where the amount, context and organisation suggests sexual interest).
5	Erotic posing	Deliberately posed pictures of fully, partially clothed or naked children in sexualised or provocative poses.
6	Explicit erotic	Emphasising genital areas where the child is posing either naked, partially or fully clothed.
7	Explicit	Involves touching, mutual and self-sexual activity masturbation, oral sex and intercourse by child, not involving an adult
8	Assault	Pictures of children being subjected to a sexual assault, involving digital touching, involving an adult
9	Gross assault	Grossly obscene pictures of sexual assault, involving penetrative sex, masturbation or oral sex involving an adult
10	a. Sadistic b. Bestial	a. Pictures showing a child being tied, bound, bestiality beaten, whipped or otherwise subjected to something that implies pain b. Pictures where an animal is involved in some form of sexual behaviour with a child

APPENDIX C. Search results yielded from the scoping exercise.

DATABASE SEARCHED Searches conducted on: 20.08.2013	SEARCH TERMS USED	SEARCH RESULT NUMBER	RELEVANT SEARCH RESULTS
Database of abstracts of reviews of effects – DARE (terms searched in any field, inc author, title, journal and funder)	sex* offen* internet sex* offen* online sex* offen* indecent image* child porn* child abuse child abuse online child abuse internet online offen* Internet Internet sex* online sex*	0 0 15 0 0 60 0 0 0 761 0 0	0 0 0 0 0 1 0 0 0 1 0 0
Cochrane database of systematic reviews (terms searched in title, abstract and keywords)	sex* offen* internet sex* offen* online sex* offen* indecent image* child* porn* child abuse child abuse online child abuse internet online offen* Internet sex* online sex*	1 0 7 0 1 105 1 1 3 128 74	1 0 0 0 0 1 0 0 0 0 0
Pospero (terms searched in review title, review question, PICO, named contact, organisation, country and funders)	sex* offen* indecent image child* porn* child abuse online offen* Internet sex* online sex*	3 0 0 0 0 0 0	0 0 0 0 0 0 0
Campbell collaboration library of systematic reviews (terms searched in all text or keywords)	sex* offen* AND internet sex* offen* AND online indecent image child* porn* child abuse online offen* Internet sex* online sex*	46 81 20 175 167 134 139 144	0 0 0 0 0 0 0 0
Evidence for policy and practice information –	sex* offen* indecent image	1 0	0 0

DoPHER (terms searched in all text)	child* porn*	0	0
	child abuse	27	0
	online offen*	0	0
	Internet sex*	0	0
	Online sex*	0	0
Scottish intercollegiate guidelines network	Sex* offen*	1	0
	Child abuse	21	0
	Internet offen*	0	0
PsycInfo	Sex* offen* AND internet AND meta- analysis	4	2
	Sex* offen* AND internet AND review	33	2
	Sex offen* AND online AND review	16	2
	Sex offen* AND online AND meta-analysis	4	2
Medline	Sex* offen* AND internet AND meta- analysis	0	0
	Sex* offen* AND internet AND review	9	0
	Sex offen* AND online AND meta-analysis	3	2
	Sex offen* AND online AND review	4	0
Excluding duplicates			3

APPENDIX D. Results of search syntax of online databases.

DATABASES Final search conducted on: 22.08.2013	POPULATION SEARCH TERMS	SEARCH RESULT NUMBER	COMBINATIO N OPERATOR “OR”
OVID:PsycInfo OVID:MEDLINE OVID:EMBASE	Internet sex* offen*	62	487
	Internet child* molest*	0	
	child* abuse imag*	29	
	online offen*	30	
	child* porn*	424	
Web of Science	Internet sex* offen*	148	1,793
	Internet child* molest*	26	
	child* abuse imag*	1,079	
	online offen*	188	
	child* porn*	554	

DATABASES Final search conducted on: 22.08.2013	COMPARATOR SEARCH TERMS	SEARCH RESULT NUMBER	COMBINATIO N OPERATOR “OR”	Combination Operator “AND” with above Population Term “OR” Combinations
OVID:PsycInfo OVID:MEDLINE OVID:EMBASE	recid*	17,970	18,516	50 SEARCH A
	reoffen*	1,303		
	child* molest*	1,465	1,541	61 SEARCH B
	contact sex* offen*	79		
	disclosure	55,642	57,282	11 SEARCH C
	polygraph	1,676		
Web of Science	recid*	6,008	6,188	53 SEARCH D
	reoffen*	479		
	child* molest*	1,174	1,375	92 SEARCH E
	contact sex* offen*	232		
	disclosure	22,673	23,556	15 SEARCH F
	polygraph	893		
TOTAL				282

APPENDIX E. Screenshot of the search strategy of the online databases, PsycINFO, Medline and EMBASE.

▼ Search History (18 searches) (Click to close)

Remove Duplicates

View Saved

# ▲	Searches	Results	Search Type	Actions
1	Internet sex ^a offen*.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	62	Advanced	<div>Display</div> <div>More »</div>
2	internet child ^a molest*.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	0	Advanced	<div>Delete</div> <div>Save</div> <div>More »</div>
3	child abuse imag*.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	29	Advanced	<div>Display</div> <div>More »</div>
4	online offen*.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	30	Advanced	<div>Display</div> <div>More »</div>
5	child ^a porn*.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	424	Advanced	<div>Display</div> <div>More »</div>
6	1 or 2 or 3 or 4 or 5	487	Advanced	<div>Display</div> <div>More »</div>
7	recid*.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	17970	Advanced	<div>Display</div> <div>More »</div>
8	reoffen*.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	1303	Advanced	<div>Display</div> <div>More »</div>
9	child molest*.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	1465	Advanced	<div>Display</div> <div>More »</div>
10	contact sex ^a offen*.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	79	Advanced	<div>Display</div> <div>More »</div>
11	disclosure.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	55642	Advanced	<div>Display</div> <div>More »</div>
12	polygraph.mp. [mp=ti, ab, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, ps, rs, an, ui, tc, id, tm]	1676	Advanced	<div>Display</div> <div>More »</div>
13	7 or 8	18516	Advanced	<div>Display</div> <div>More »</div>
14	9 or 10	1541	Advanced	<div>Display</div> <div>More »</div>
15	11 or 12	57282	Advanced	<div>Display</div> <div>More »</div>
16	6 and 13	50	Advanced	<div>Display</div> <div>More »</div>
17	6 and 14	61	Advanced	<div>Display</div> <div>More »</div>
18	6 and 15	11	Advanced	<div>Display</div> <div>More »</div>

Remove Selected

Save Selected

Combine selections with:

And

Or

Save Search History

APPENDIX F. Screenshot of the search strategy of the online database, Web of Science.

Set	Results		Save History / Create Alert	Open Saved History
# 18	15	#15 AND #14 <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 17	92	#15 AND #13 <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 16	53	#15 AND #12 <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 15	1,793	#5 OR #4 OR #3 OR #2 OR #1 <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 14	23,556	#11 OR #10 <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 13	1,375	#9 OR #8 <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 12	6,188	#7 OR #6 <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 11	893	Topic=(polygraph) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 10	22,673	Topic=(disclosure) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 9	232	Topic=(contact sex* offen*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 8	1,174	Topic=(child* molest*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 7	479	Topic=(reoffen*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 6	6,008	Topic=(recid*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 5	554	Topic=(child* porn*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 4	188	Topic=(online offen*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 3	1,079	Topic=(child* abuse imag*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 2	26	Topic=(internet child* molest*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		
# 1	148	Topic=(internet sex* offen*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=All years</i>		

APPENDIX G. Quality assessment checklist.

Study:	
Criteria	How well is the criterion met? Fully met = 2 Partially met = 1 Not met = 0
INTERNAL VALIDITY	
1. The study is directly concerned with dual offending.	
2. The study used an appropriate method to answer the study question.	
5. The study categorically defines nature of further contact or non-contact sexual offending e.g. abuse image possession, soliciting, indecent assault.	
4. The study categorically defines nature of the Index contact or non-contact sexual offending, e.g. abuse image possession, soliciting, indecent assault.	
SAMPLING BIAS	
3. The sample uses <i>online</i> offenders in preference to <i>child abuse image possessors</i> , in preference to <i>non-contact</i> sexual offenders.	
6. The study considers a diverse source of offense information, that is, one or more of the following: official offence records, self-disclosure, polygraph exam (not an exhaustive list).	
7. The sample was selected from a diverse/appropriate source of online sexual offenders, in preference to one subset, e.g. those seeking clinical intervention, and/or purely retrospective review of criminal file information.	
EXTERNAL VALIDITY	
8. Psychological theory is applied to explain the rate of dual offending.	
9. The study author(s) have identified and accounted for potential confounding factors.	
10. The study findings are consistent with further empirical data.	
TOTAL SCORE (/20)	

APPENDIX H. Data extraction form.

Study:
Source of sample (e.g. treatment program):

Prior offending

Source of offence info:	Initial number recruited:	Final number selected:	Age (range, M, SD)
%age (n) of sample with any prior sexual contact offences		If specified, list the categories of prior contact sexual offences: (%age, n)	
Details of further prior offence history, where available, for non-sexual-contact offending (e.g. violent non-sexual offending, number of victims, age of victims)			

Recidivism

Source of offence info:	Follow-up duration @ Time One:	Sample size:	Age (range, M, SD):
%age (n) of sample with any sexual contact reoffences:		If specified, list the categories of contact sexual reoffences: (%age, n):	
Details of further reoffending, where available, for non-sexual-contact offending (e.g. violent non-sexual offending, number of victims, age of victims):			

Follow-up duration @ Time Two:	Source of offence info:	Sample size:	Age (range, M, SD):
%age (n) of sample with any sexual contact reoffences:		If specified, list the categories of contact sexual reoffences: (%age, n):	
Details of further reoffending, where available, for non-sexual-contact offending (e.g. violent non-sexual offending, number of victims, age of victims):			
Follow-up duration @ Time Three:	Source of offence info:	Sample size:	Age (range, M, SD):
%age (n) of sample with any sexual contact reoffences:		If specified, list the categories of contact sexual reoffences: (%age, n):	
Details of further reoffending, where available, for non-sexual-contact offending (e.g. violent non-sexual offending, number of victims, age of victims):			

Notable characteristics of dual offenders	
Demographic:	Psychological (report method of assessment):

APPENDIX I. Step-by-step process of data treatment for Study 1.***Rationale underpinning method selection***

Bernard and Ryan (1998), and Guest et al. (2012), proposed that the first step in method selection should be to determine the purpose of the research in order that it match the nature of the expected outcome. Braun and Clarke (2006) categorised analytic methods into two broad styles based on outcome type: *deductive* and *inductive* approaches. A deductive approach is characteristically driven by the top-down investigation of data with the goal of ‘testing’ it against a pre-conceived conceptual theory. Such an approach is epistemologically-derived and so aims to assesses, confirm or reject a hypothesis on the basis of how well the data collected can be assimilated into the existing theoretical framework. Guest et al. (2012) cite *conceptual* and *confirmatory analyses* as graded examples of this approach according to the flexibility with which pre-existing theoretical constructs can be adapted to accommodate new data.

Conversely, inductive qualitative methods approach data collection and analysis from a theoretically-neutral position (Bernard & Ryan, 1998). The outcome of inductive investigation is to construct conceptually unbiased understanding driven by the content of the data alone rather than within the context of existing theory. Inductive methods can lead to the development of new theoretic frameworks and reduce the risk of misattributing data to an inappropriate pre-existing concept due to subjective bias (Guest et al., 2012).

As the aim of the current was to explore IIOC offending factors rather than confirm or explain pre-existing theory, the current study adopted an inductive approach. Previous attempts to build theoretic understanding of the process and reasons for accessing IIOC have typically been derived from what is currently understood about contact sexual offending.

There may be subtle or overlooked factors relating to IIOC access which have not been identified due to the reliance on contact offending-based assumptions. The current study, therefore, took an epistemologically-objective perspective.

The method of Thematic Analysis (TA) was adopted for data treatment, which Braun and Clarke (2006) stated is at the core of the majority of qualitative exploratory techniques. The current study better suited the application of a less theoretically loaded perspective than an approach such as Grounded Theory would allow. Guest et al. (2012) state that TA comprises a set of systematic guidelines to explore a qualitative dataset via an iterative process of examining isolated data items for surface-level or latent units of meaning, or *codes*. The authors further describe that the analyst(s) assigns each data item a provisional code, which are then compared and contrasted against one another for potential associations. When codes are thought relate they are organised to construct a hierarchy of superordinate *themes*, representing broader conceptual ideas.

In order to ensure consistency when attributing coded data to a composite theme, an operationally defined codebook is simultaneously produced and used to specify the associations between codes (Saldaña, 2009). Data items must satisfy the definition before being assigned the same code or being incorporated into a theme. As new coded data is incorporated to a theme, the theme may undergo some degree of conceptual refinement, requiring the congruency of its subordinate themes to again be checked against it. Themes may be restructured as they are conceptually refined, resulting in some being expanded or compressed with respective codes being assimilated elsewhere or being left to stand thematically independent (Braun & Clarke, 2006).

TA served the current study's aims as it allows for an *essentialist* or *realist* interpretation of the data (Strauss & Corbin, 1998). That is, the data gathered was viewed with regard to

quantifiable behaviours and clearly identifiable participant phenomena, such as thoughts, feelings, behaviours, relevant to the current paper's pragmatic purpose. This was adopted in preference to viewing data from a *constructionist* perspective which focuses on the socially-endowed phenomenology which gives interpretative meaning to data items (e.g. Interpretative Phenomenological Analysis; Smith, Flowers, & Larkin, 2009).

Guest et al. (2012) specify benefits of TA which are relevant to the current study. These include the technique to highlight key features of the data to steer future research and inform policy-making; that TA is well suited for conducting exhaustive coverage of smaller datasets to pare out individual differences in participants' data and to identify unanticipated insights; that as an inductive approach, the conclusions drawn by TA have a clear data-supported evidence base; and that the team-based nature of the method allows the opportunity to improve reliability via inter-rater analysis.

Step-by-step explanation of the data treatment process

1. Familiarisation with the data

All interviews were transcribed by the current author, who then conducted the provisional coding (information relating to intercoder reliability is presented, below). The transcription process contributed to the familiarisation of the data. All verbal and non-verbal utterances were transcribed and each dataset was retained in full for analysis, rather than isolated portions of text, in order to conduct a comprehensive exploration. As advised by Braun and Clarke (2006), all members of the research team who were involved in coding, undertook the active process of reading and re-reading the whole dataset to identify key words, trends and ideas of interest.

2. Generating initial codes

This stage involved systematically organising individual data items into segments of meaning. As Guest et al. (2012) advocate, the current paper makes explicit the active manner in which this was conducted rather than broadly referring to codes ‘emerging’ from the data.

Codes were assigned to each data item (typically an individual sentence or phrasal clause) to include information relating to three criteria. The first coding criterion concerned where an item fell within the context of the timeline structure of the interview schedule, that is, whether the item related to the period prior to the participant’s first IIOC offence, the outset of their offending, any time during the maintenance period, the cessation of their offending or the abstinence period since their final IIOC offence. The timeline context was either identifiable by the focus of the interviewer’s question or by reviewing the context of the passage in which the item fell.

The second coding criterion recorded information regarding the broad aspect of IIOC offending which the participant was discussing at the time. That is, across the course of interviews, the precise nature of the conversation topic altered. The second coding criterion therefore, was used to identify the broad topic of conversation which the participant had shifted to. This was vital to maintain conceptual clarity in instances where participants referred back to an aspect of their offending which they had previously discussed, but which would have been ambiguous had each data item been considered in isolation. Therefore, preceding data items were reviewed and the respective phase of conversation topic was recorded by the second coding criterion.

The third coding criterion related to identifying the core meaning of data items. That is, the analyst needed to determine the ‘message’ which the participant was trying to convey in their

statement. This was done by looking at the subject and verb of each clause. This aspect of coding included identifying the specific behaviour, feeling or thought the participant was referring to and whom they said had engaged in it. Adjectives were highlighted in respective codes, often indicative of the participant attributing a value judgement.

Each data item was ultimately assigned a code label containing three pieces of information, following this template:

“Period of offending being discussed [Prior, Outset, Maintenance, Cessation, Abstinence] – Broad topic being discussed [e.g. Reactions to access IIOC] – Meaning of the message being conveyed [e.g. The participant felt disgust]”.

A log of each coded data item was recorded as the basis of a provisional codebook. This was organised into a thematic structure within the next stage of analysis.

3. Searching for themes

Braun and Clarke (2006) outline that the third analytical stage comprises collating coded data into potential themes based on their relevance to one another. This was performed via a ‘pile sort’ exercise according to shared code labels. Each item of coded data item was first sorted into separate ‘piles’ based on their timeline code, referring to the period “Prior” to offending, “Outset”, “Maintenance”, “Cessation” and “Abstinence”. A hierarchical structure was then imposed as the data within each time period pile was divided into smaller piles according to the second coding criteria. As such, any item which had been identified as relating to, for example, ‘Motivating Factors for Access’, the ‘Methodology of Access’, ‘Consequences of Access’ were placed together in the ‘sub-piles’.

Coders assigned the data to candidate themes within each sub-pile based on either the explicit meaning of what was being said or its conceptual undercurrent. That is, data items were grouped together into the third level of the thematic hierarchy based on their conceptual commonality. As stated above, the current study adopted an essentialist perspective to data interpretation and so looked for clearly identifiable behaviours, thoughts, feelings, etc which were explicitly referenced by participants. The analysts were required, however, to perform a degree of interpretation when assigning more abstract items to candidate themes. For instance, where a participant spoke in metaphor, some interpretation was necessary to identify its conceptual meaning to then compare and contrast to more concrete items.

4. Reviewing themes

Once tentative themes had been derived from commonalities within and between each participant's coded data items, the content of the candidate themes was reviewed to determine how *internally homogenous* and *externally heterogeneous* they were, as advocated by Patton (1990). This process involved ensuring that each candidate theme was sufficiently conceptually distinct from the others and that each of the coded items loaded to it were conceptually consistent (Braun & Clarke, 2006). By reviewing each coded item which had been tentatively assigned to a candidate theme against its composite nature, those items which appeared conceptually incongruous were removed and either assimilated into a better fitting theme or they formed the basis of a novel theme.

5. Defining and naming themes

Following the recursive process of reviewing the themes' content and re-aligning coded items, the specific conceptual basis of the refined themes was operationally defined. The process is repeated for the subordinate sub-themes. Each theme and sub-theme is explicitly and clearly

defined within the codebook, with accompanying illustrative item extracts. Themes and sub-themes are assigned appropriate and representative names (Braun & Clarke, 2006). The codebook can then be made available for external review in order for inter-rater reliability checks to be undertaken.

6. Producing the report

The sixth stage of TA as proposed by Braun and Clarke (2006) concerns the appropriate presentation of data. The results of the analysis are reported below.

APPENDIX J. Interview schedule.

What is your age?

Approximately how long were you spending online in an average week when you first started viewing IIOC?

Did the amount of time you spend online in an average week change through the course of your offending?

How long do you now spend online in an average week?

On a scale from “proficient” to “novice” how would you describe your level of technology use?

Why did you choose to view and access IIOC? Were there any factors which were particularly influential in making this choice?

When did you first view IIOC online?

Had you accessed IIOC of any kind before accessing online?

What type of IIOC did you first access online (**refer to SAP typologies**)

Did you deliberately look for IIOC of this nature when you first accessed it?

For how long before first accessing IIOC online did you have an interest in this type of material?

Did the type of IIOC you first accessed online relate in any way to your own personal thoughts/feelings/fantasies?

Did you have an interest in any other type of pornographic or other extreme/obscene material before first accessing IIOC online?

What type of material?

For how long had you been interested in this other pornographic material?

How (i.e. newsgroup, website, P2P network) did you first locate IIOC online?

Where were you when you first accessed IIOC online?

Was there anyone else either in your immediate presence or close by?

Can you describe how you felt immediately prior to first accessing IIOC online?

How did you react while first accessing IIOC online?

What was your reaction afterwards? How did the experience make you feel?

What motivated you to continue to access online IIOC?

How often would you access online IIOC following your first experience?

For how long at a time did you spend viewing online IIOC?

How much content did you access?

Did your pattern of accessing online IIOC change with time?

Frequency?

Duration?

Volume?

Did the nature of IIOC you accessed change with experience?

If so, in what way?

Did you access text/fiction posts/websites?

Did you post as well as download IIOC?

If you posted, what did you post?

Were there any factors which were particularly influential in your decision to post on-line?

Did you hope to trade or make a financial gain from sharing IIOC?

Did you prefer to seek new material or revisit stored material?

Did you maintain a collection of images?

What was the nature of the material in your collection (I.e. was it mostly IIOC, or other pornographic/extreme/obscene content?

Did you ever make contact with or meet others who viewed or posted IIOC online?

How did making contact or meeting with other users of IIOC make you feel?

How did these relationships compare with other relationships which had been formed off-line (with non-offenders)?

Did you use any other methods of accessing online IIOC other than that which you used in the first instance?

IF YES:

What were the other means of access? Did you use any of the following methods?

Following progressive website links

E-mail

Key word searching via search engines

Known website/s

Newsgroups

Chat channels (Internet Relay Chat)

P2P

Mailing lists from forums of which you were a member

Why did you change your method of access?

Did you use more than method of access during the same period?

Did you ever replace one method of access with another?

Did you use different technologies/methods for different purposes?

How familiar were you with the technologies you used?

Are there any technologies you specifically avoid? Why?

IF NO:

Why did you prefer this method?

What deterred you from using other methods?

Are there any technologies you specifically avoid?

Why?

Did the method you used to access IIOC have any impact on:

the type of content you viewed

how often you viewed this content

the length of time spent viewing this content at one time

Did you ever make use of social media (e.g. Facebook, Twitter) to either acquire material (from others profiles, from other on-line users) or to communicate with other users/distributers?

Did you take any steps to protect your identity on-line?

Did you use a single handle/username when seeking this content; did you use any proxy software – which proxy?

If participant has used newsgroups

In your opinion, are newsgroups used only by people viewing/downloading/posting IIOC, or are they also used by children?

Are you aware of any examples, whereby adult males have made contact with children through newsgroups?

Have you ever made contact with a child through a newsgroup?

Did you talk online, or did you meet up with the child/children at a later date?

Which newsgroups have you used?

How did you find out about these newsgroups?

Why did you choose to use these specific groups?

Did using newsgroups affect your level of activity?

How often

How long spent online

Volume of content accessed/posted

What do newsgroups offer for users?

Do people use newsgroups for support?

If so, which newsgroups offer users support?

Does this support affect your online behavior?

How did you feel about other users of newsgroups?

Do users reveal their identity?

Do you believe that law enforcement agencies monitor newsgroups?

Were you concerned by your interest in IIOC?

Did changes in your level of activity change the way you thought about your on-line behavior?

Did the urge to access online IIOC effect your day to day life?

Did you structure your day around the need to access online IIOC?

Did accessing online IIOC have any effect on the ways in which you related to other people?

Did you ever feel the urge to access IIOC but were not able to at that time?

How did this make you feel?

Did you ever experience conflicting emotions in accessing online IIOC?

Did accessing online IIOC change the contents of your thoughts/fantasies?

Did you ever feel the urge to commit a contact offence?

If so, did this urge vary dependent on whether you had just accessed online IIOC?

At what point would the urge to contact offend be strongest?

Have you ceased access to IIOC?

Why did this happen?

How did you feel giving up on viewing/posting IIOC?

How do you feel now with no access to IIOC?

Since stopping viewing/posting have you felt an urge to view IIOC?

Were you able to manage this urge? How?

How did you feel following this urge?

What has been most difficult to deal with in ceasing viewing/posting of IIOC?

APPENDIX K. Technical processes used to access indecent images of children.**Background**

It is vital for the effective policing of IIOC offence behaviours and the efficacious monitoring of known users of indecent images of children (IIOC) that law enforcement agencies and probation services are aware of the digital channels by which IIOC is accessed, posted and traded. In a review of methods used by IIOC offenders, Sheldon (2012) reported four prevalent sources. First, IIOC users access material via Internet Bulletin Board systems or *newsgroups*. In these domains, images are uploaded to servers under specific labels (either clearly identifiable or using code terms) for other users to access. Second, images can be made available via dedicated file sharing servers, referred to as *peer-to-peer* (P2P) networks. Due to the use of a dedicated server much larger quantities of image data can be exchanged in this manner. Third, IIOC is reported to be exchanged directly via private communication channels, such as e-mail or instant messaging services. Fourth, Sheldon (2012) stated that there is a growing trend for IIOC to be self-provided by the victim via social networking sites.

Chapter 1 reported prevalence data regarding the number of child victims being sexually targeted by offenders on sites such as 'Facebook' and 'MySpace'. The results of studies conducted by Mitchell et al. (2010), and Ybarra and Mitchell (2008), indicated that minors are identified as targets on these sites and then solicited to pose for indecent images online via a webcam to share with the offender. Typically, offenders using these channels to access IIOC threaten to circulate the material unless the victim agrees to provide more images. With an increasing number of youths accessing social media sites, there is a respective need to better understand the manner in which IIOC users put these minors at risk, and so direct intervention strategies.

CEOP (2012) reported that the technological processes used to access online IIOC are constantly evolving as new technology allows for a greater speed of access and the retrieval of larger quantities of indecent material. As such, new methods of access are likely to become available and others fall out of favour. In order to gather as much information as possible relating to current trends, a subsidiary aim of Study 1 was to examine access techniques reported by online IIOC-only offenders from their self-report regarding their offending method.

Method

Data collection and treatment followed exactly the same methodology applied in the qualitative investigation of the accounts of IIOC-only offenders, as described in Chapter 3. Further information regarding the step-by-step process of data treatment is presented in Appendix I.

The only conceptual bias which may have affected data collection and treatment stemmed from the questions participants were asked regarding the methods they employed to access indecent material. Participants were asked to identify methods they used from a 'checklist' of online based strategies compiled by the research team. Whilst this 'checklist' approach was more deductive, it was only administered in each interview once participants had had the opportunity to respond to open-ended questions. The specific methodologies participants were asked about were: following progressive website links, the use of e-mail, key word searching via search engines, URL or known website searching, Newsgroups, Internet Relay Chat (IRC), Peer-to-Peer (P2P) networking and via mailing lists from forums of which participants may have been a member. Participants were provided with a list of definitions of each of these techniques prior to the outset of the interview to ensure they were able to appropriately identify any method(s) they did or did not employ. The checklist was not

intended to be an exhaustive inventory of available strategies but it was hoped it would reduce the risk of any methods being overlooked by participants.

Results

One of the three superordinate themes extracted from participant data collected in Study 1, regarded the technological process of accessing IIOC. This theme comprised references to the manner and pattern in which participants handled indecent material. Data items within this conceptual frame were categorised into sub-themes of: Method Used, IIOC Content and Pattern of IIOC Access.

Methods used to access IIOC

Twelve methods of IIOC access were referred to by participants across interviews. Sub-themes were extrapolated for each method and respective information was collated within it regarding reasons why these methods were preferred or avoided. A summary of this information is presented in Table H.1 and expanded upon, below. Some participants reported obtaining material via more than one method at the time of their first offence. All participants denied accessing IIOC offline. No participants disclosed having paid to access indecent material, citing concerns regarding anonymity and fear of detection.

Key term in search engine

Half of the participants stated that they used the method of entering key terms into search engines to access images. Search engines referred to included, 'Yahoo', 'Google' and

Table K.1 Methods of IIOC access discussed by participants and reasons for/against their use.

Method	Participants using this method (No. for first access/during maintenance)	Reasons why continued with this method	Reasons why changed from this method	Reason why this method was avoided/not used
<i>Key term in search engine</i>	5/5	<p>Able to elicit a greater yield of material with practice and refining search terms.</p> <p>Other methods were too complex or included too great a perceived risk, despite knowing they be more efficient.</p> <p>Used to navigate to related forums or sites.</p> <p>Familiarity and ease of procedure. Would have been time consuming to learn an alternative method.</p>	<p>Difficult to find novel material.</p> <p>Needed a method which elicited a greater yield of images.</p> <p>Methods such as P2P were easier to use.</p> <p>Sought novel content after exhausting content of each site.</p>	<p>Uncertainty of the nature of content that would be accessed.</p>
<i>Progressive website links</i>	5/5	<p>Fulfilled need without the sense of participating in offending (diminished culpability).</p> <p>Familiarity and ease of procedure.</p> <p>Able to access a diverse range of (unedited) material.</p> <p>Served curiosity.</p>	<p>Poor yield of novel images.</p> <p>Learned of more efficient methods.</p>	<p>Feared this method would be more vulnerable to contracting a computer virus.</p>

Method	Participants using this method (No. for first access/during maintenance)	Reasons why continued with this method	Reasons why changed from this method	Reason why this method was avoided/not used
<i>Peer-to-Peer File sharing(P2P)</i>	0/4	<p>Convenience of large quantities of novel material becoming available more regularly in one location.</p> <p>Used method for other purposes (e.g. music sharing).</p> <p>Familiarity.</p>	Too complex; felt increased interaction increased perceived personal culpability.	<p>Feared this would elicit images with more severe content.</p> <p>Would have felt more culpable as if offending on an “industrial scale” and due to the virtual interaction</p>
<i>Internet Relay Chat (IRC) channels</i>	3/2	<p>Satisfied desire for interaction.</p> <p>Familiarity.</p> <p>Preferred channel had no moderator.</p> <p>Ease of procedure to preferred channel having in-built file sharing method.</p> <p>Perceived diminished culpability as this method did not require downloading any purpose-specific software.</p> <p>Could access material by ‘observing’ chats without having to interact.</p>	Changed method to P2P after it was recommended by another user.	Fear of detection due to lack of anonymity.

Method	Participants using this method (No. for first access/during maintenance)	Reasons why continued with this method	Reasons why changed from this method	Reason why this method was avoided/not used
<i>Re-accessing known websites</i>	0/4	Knowledge that the content would satisfy interest.	None stated.	None stated.
<i>Forum and Bulletin Boards</i>	0/2	None stated.	None stated.	None stated.
<i>E-bay to purchase discs of IIOC</i>	0/1	Believed there was a legal loophole which permitted purchase of naturism material.	None stated.	None stated.
<i>Blogs</i>	0/1	Blog sites continued to operate whilst other known sites were closed down.	None stated.	None stated.
<i>E-mail</i>	0/0	N/A	N/A	Fear of detection due to lack of anonymity.
<i>Newsgroups</i>	0/0	N/A	N/A	Lack of awareness or understanding about this potential source. Concern it would lead to accessing more severe content.

Method	Participants using this method (No. for first access/during maintenance)	Reasons why continued with this method	Reasons why changed from this method	Reason why this method was avoided/not used
<i>Social media</i>	0/1	<p>Links to other sources were posted on Twitter or accounts on Bebo or specific social networks.</p> <p>Accessed images indirectly from social media sites, originally posted by the individuals depicted themselves.</p>	N/A	<p>Fear of detection.</p> <p>Restricted use of social media sites to legitimate purposes.</p> <p>Poor understanding of source; lack of familiarity.</p>
<i>Forum mailing lists</i>	0/0	N/A	N/A	None stated.

‘Lycos’. Key terms used which were used were relatively rudimentary, such as “nude teens”, “naturism teens”, “13-year-old”, “child porn” and “teen girls”.

Participants described a preference for this method as they learned terms which yielded a greater number of images. Although some attempted to access IIOC via more complex methods, many said they persisted with key term searches, or continued to solely use this method as it would have been time-consuming to practise a new approach. Offenders also described a reluctance to change from this method of access as the act of finding a new method would have highlighted their active role in offending and prompted them to feel more legally culpable.

“As you search for things then you became more adept at understanding the language of the Internet in terms of legal... illegal offending, you know, what words to put in.”

“I would have had to have installed software on my computer and I think that would have made it real...It’s not real and I’m not really going out of my way. I just want to access these, something straight away, I’ve got this urge to do it straight away so I’m not going to spend any time other than just quickly going on to the Internet.”

Progressive website links

Eight of the ten participants accessed IIOC via following progressive sponsored website links or ‘pop-ups’. Two of these participants discontinued this method after first access, in preference for a more active approach. Two other offenders accommodated following weblinks/pop-ups into their offending patterns after they had first accessed IIOC by different

means. Those who persisted with this method spoke positively of the passive role they using it, in distancing them from the moral and legal responsibility of handling IIOC:

“Other methods involved engaging and committing and joining and coming closer to the crime of abuse...what I wanted out of the experience I could get from just surfing quite freely without engaging. The material was so easy to access.”

“[Changing methods] would bring me too close from what was going on and wake me out of this, wake me out of the delusion that I was only a voyeur.”

Peer-to-Peer file sharing (P2P)

Three participants reported routinely accessing IIOC via file-sharing sites during the maintenance period of their offending. Two of these users named ‘Bit Torrent’ as the P2P source of indecent material. Both these users explained they were introduced to this method by a second party, one of whom he had been in contact with via IRC; the other of which said that they had been using the site to share music, after it was recommended by a colleague.

Offenders said they favoured this method as it contained large quantities of novel material in one convenient location. Other participants said they actively avoided this method of access for the same reason. They expressed concern that it may bring them into contact with other users due to the interactive role of sharing on sites. They also described being concerned about the potential volume of material they would be exposed to. Offenders complained of these factors as they felt it would cause them to feel more legal culpable.

“I think I would have had to switch my conscience off so much in order to download a program that allows me to file share...This phrase, ‘they’re doing it

on an industrial scale' used to spring to mind and that was an incredibly scary phrase for me because it seemed worse than what I was doing"

"Situations like file to file things like that would lead to more extreme images...you'd be in a situation where I was going to be coming across images that I probably wouldn't want to see."

Internet Relay Chat (IRC) channels

Three participants accessed IIOC via IRC channels at the outset of their offending. These offenders spoke of their offending as being intrinsically related to their wish to communicate with others online. Participants met fellow users in open chat channels (namely, 'MSN', 'MIRC', 'Gaydar' and 'Teenspot'), identifiable by code names or references in discourse. They then exchanged images via private chat streams. Participants who continued with this method were unlikely to substitute it for another approach as it continued to serve their interpersonal needs. They also described feeling less morally culpable as they shared responsibility for access:

"The images were never the primary focus of my sexual experience online, it was the interaction...MSN seemed easy because I could be on for purely innocent means, chatting to my friends that I knew in the real world, it just so happened that I wasn't."

"I became much less interested in images and more interested in talking to people... I didn't feel I needed to [change to an alternative method]"

Others avoided this method, including one participant who adopted an alternative approach after first accessing IIOC by IRC. They cited concerns about a growing fear of detection:

“It’s not confidential... anything that at the time I thought would risk my confidentiality so e-mail addresses, you know, having even a Hotmail address or anything like that so anything that could be traceable to me.

Re-accessing known website

Returning to previously visited websites represented the most rudimentary access method and, by definition, occurred only after participants’ first offence. Participants employing this strategy largely did not expand on their motivation to follow it, other than that they were familiar with the material and that it satisfied their interests, often using it in unison with other approaches.

Forums and bulletin boards

Two participants disclosed accessing IIOC via forums or bulletin boards. One user referred to becoming aware of one such message board after it was referred to by users on other sites. Neither participant expanded on their use of these methods beyond affirming that they used them in conjunction with other sources during the maintenance period of their offending.

Purchasing IIOC via ‘Ebay’

One participant discussed that they began to routinely access IIOC via the idiosyncratic method of purchasing hard copies of material pre-stored to discs from an online auction site. The offender explained that he adopted this method during the maintenance period, alongside key term searches. He described that he predominantly purchased material depicting teenage naturism, facilitated by the belief that it was legal:

“I did buy discs from ‘Ebay’ thinking that again I had found a loophole somewhere that I could actually buy it legally and, therefore...I wasn’t doing

anything wrong. So I was going on 'Ebay' typing in um teen nudism and um buying material."

Blog sites

One participant discussed that their preferred method to obtain IIOC during their maintenance offending period was via a series of blogs which he accessed from 'Boylinks.com'. He described that the blogs in part contained legal images promoting the 'beauty' of young subjects but that these images were interspersed with IIOC. The offender stated that he was able to persistently use this method as the blogs were not shut down as quickly as other sites:

"They've got a whole load of pictures of young boys and it's all about trying to say how beautiful they are then then they're bound to be followed by people...to create their own blogs with indecent images."

Newsgroups

All participants denied accessing IIOC via Newsgroups and only two made any further comment about the potential source. One stated that he may have encountered the method but did not fully understand it, the other expressed reluctance to adopt this method for fear that it would result in accessing content of a higher severity:

"I think I came across some links to Newsgorups but I actually think that I didn't really fully understand how to use them"

"I was very aware that engaging in Newsgroups...would lead to more extreme images."

Social network sites

Only one participant reported accessing IIOC via a social network site, namely ‘GR.OUPS’, during the offending maintenance period. He also stated that he accessed IIOC indirectly via ‘Twitter’ where he monitored the posts of a fellow IIOC user, who would publish links to IIOC sources on the site. He disclosed that he visited profile pages of subscribers to ‘Bebo’ who provided links to indecent material.

Another participant disclosed that they established a ‘friendship’ connection on the social network site, ‘Facebook’, with a fellow IIOC user, with whom they had exchanged images via IRC. He denied using ‘Facebook’ to handle indecent material. Other participants stated that they were deterred from using social network sites as a means of IIOC access due to a fear of detection through lack of anonymity. One participant observed much of the content they accessed may have been misappropriated from a social network site:

“A lot of the content I came across I deduced must have come from social networking ‘cos it was clear that the images were, were produced by young people themselves”

Private e-mail and forum mailing lists

All participants refuted that they accessed IIOC via either of these methods. A common theme amongst comments was that they were reluctant to associate any personally identifiable information, such as an e-mail address, with their use of IIOC.

Discussion

The results of the current study indicated that participants used three of the four technological methods to access IIOC identified by Sheldon (2012): online bulletin boards, P2P channels

and private communication lines, such as IRC or e-mail. However, an analysis of the data regarding participants' first method of access indicated that the majority initially relied upon relatively unsophisticated means, namely conducting key term searches via preferred search engines and/or following progressive website links. A general synthesis of the current findings suggests there may be a conceptual relationship between the method of first IIOC access and the *direct* or *indirect approach* of participants' offending.

Some participants reported they continued to offend only via these methods of key term searches and progressive website links. The decision to continue with only these methods was mediated by several factors: facilitating beliefs regarding diminished culpability and the compulsion experienced by the offender to access images of a higher level of seriousness and/or greater quantities of images. Participants reported that key term searches and website link methods were unreliable at yielding novel content as users often returned to a limited number of sites which contained less extreme material they had incidentally accessed at the outset. Some participants made simple adaptations to these methods by narrowing the key terms they entered when conducting a search engine scope or directly returning to preferred sites. This method was preferred by those who expressed that they had limited technological expertise and those who preferred the familiarity and ease of its procedure. Data items comprising these subthemes indicated that if these participants attempted other methods which yielded a greater number or severity of images, they were deterred to continue due to a fear of detection by legal agencies and the dismantling of the facilitating view that they were passive users.

A contrary theme was derived from other participants' accounts which indicated that they followed a more direct or active route to accessing IIOC following their first access.

Participants whose remarks contributed to this theme included those who had an

acknowledged deviant sexual interest in minors, those who described greater compulsive urges to access and who sought images of a higher level of seriousness. Common themes throughout these offenders' accounts indicated that these participants quickly became frustrated by the limited yield of novel material elicited by key term searches or progressive website links. They reported that they substituted these offending methods or added to them by using P2P sources, which provided a greater to elicit a greater yield of images. Participants stated that P2P sites offered a convenient location to access large zip files of IIOC with a greater range of level of severity, which were regularly updated with novel material. Whilst *indirect* offenders were deterred from using this method as they perceived it to convey a greater level of moral and legal culpability, *direct* approach offenders either overrode these concerns or the concerns were not present to begin with.

Idiosyncratic approaches

Three participants described that their IIOC offending was directly conceptually related to the method by which they accessed it via IRC. They stated that their interest in the material was, in part, secondary to the interpersonal fulfilment they achieved by engaging in the online (non-commercial) trade of images. Items which comprised this subtheme indicated that providing material to others contributed to the offender feeling appreciated and needed which were feelings they were unable to achieve offline. With regard to effective intervention for these offenders, a key goal would be to identify how the interpersonal criminogenic need could be met adaptively offline. However, this interpersonal function of offending was not a requisite for employing IRC as an offending medium. One participant stated that they used IRC channels passively to observe conversations between IIOC users in order to identify links to other sources. Improved moderation of these sites by providers is necessary to monitor for such behaviour.

Despite increased media and academic attention regarding the use of online social network sites as mediums for IIOC offending, the current study found that the use of sites such as 'Facebook' and 'MySpace' were limited. There has been growing concern that minors are being solicited to provide sexualised images of themselves via social networking sites and that IIOC users are able to procure sexualised images of minors which have been self-posted to these sites (Mitchell et al., 2010; Sheldon, 2012; Ybarra & Mitchell, 2008). However, participants in the current study only referred to using these sites as a source for providing links to extensive IIOC caches elsewhere. Therefore, links posted by users of these sites to networks may need to be better policed. It may be that participants recruited in the current study were less likely to utilise social networking sites to access images due to as they were satisfied with the channels already open to them. Indirect approach offenders were deterred from methods which may have conveyed greater moral culpability which social network site use may have invoked. Similarly, direct approach offenders would have been unlikely to fulfil their need for larger collections or more severe material via these means. More research is needed to examine unique risk factors which increase the likelihood of contacting minors to provide IIOC but which do not increase the likelihood of contact sexual offending.

It is vital that police agencies gain improved knowledge of the process of accessing online IIOC in order for them to work in conjunction with Internet providers and specific online forums to protect against the distribution and access of images. This thesis has highlighted that offence monitoring needs to focus on most heavily on relatively unsophisticated techniques, such as entering key terms into a search engine. However, other idiosyncratic techniques were identified which warrant specific attention from site organisers, for instance auction sites and chat forum facilitators. Although increased arrest rates imply the implementation of more efficacious detection and prevention strategies of IIOC offending,

the understanding of this form of offence is still in its early stages and requires further investigation.

Appendix L. A selection of data items used to construct themes.***Stressful or unfulfilling lifestyle***

“I was having, probably a very stressful time through...a lot of financial worries...There was nothing else to do”

“I know, remembering back, I wasn’t happy in my job and stuff...I still don’t know what the trigger event [which immediately preceded HOC access after a period of no access] would be. Suddenly there was a trigger event and that would be it. I mean, I remember being hungover was quite common sort of theme in it all. Hungover, a ‘duvet day’ as it were, sat in bed and, um, feeling a bit sorry for myself”

“The hum drum of being at home and the boredom of it and the restrictions”

“[My son] has Aids and he took an overdose...And I think I’d got the pressure at work, setting up the business, going the business, I think I had the pressure of my daughter, the relationship she had with the much older guy and as I say the things that were happening...So I think to some degree they may be excuses but they were events that were occurring in my life and work events occurring in my life just seemed to pile on the pressure at times and at times I couldn’t cope”

“I was having, probably a very stressful time through, um, having to sending my son to private school for dyslexia and financially, having a lot of financial worries. Probably because of that and I, I thought of that and I said was that really a mitigating factor?”

Unsuccessful offline interpersonal relationships

“[With regard to living with housemates at the time of later offending] I was in halls so there was a flat of 10 of us, but sort of very little sort of interaction between them because I couldn’t stand them, they couldn’t stand me. So you, you know had your own room and that was your own place and locked the door kept the world out. So for that year I was, I would very much class myself as living on my own. Um, the following year I moved into a house with three friends who were at the same university and”

"I lived alone and [there was a] lack of sex."

"[I was] still left with some quite severe mental scars...from a tough time at school and still finding it very difficult and bewildering to grow up as a young gay man and certain at times feeling very isolated, um, and having gone from school where I was, felt very isolated, bullied [and my] personal safety was under threat most days...I was struggling very severely with what I now see as depression and so, therefore, was spending a long, long extended periods of time alone...There was very, very little, um, ["sexual outlet"] with any partner that I had in the real world..., "

"I was on my own."

"My relationship with the person I was with wasn't going too well"

, which was probably about eight, maybe nine months before [accessing IIOC] ...Having had, um, in the past quite a few relationships which had, which had ended badly where a girlfriend had either cheated on me or had left me...I thought to myself, 'I don't have a girlfriend, I can't trust women'...

"Whilst I wasn't living alone it was certainly, I would certainly class it as four separate people going about their four separate lives, just happening to come back to the same place. There was no, um, uh, there was very little interaction as such."

"I would find it incredibly difficult to trust somebody I was in a relationship with... [I] would suffer really intense paranoia, would go down their phone, their e-mails. Um, I've even followed someone that I've been out with because I thought they were going to meet someone else"

Escapism

"Viewing [indecent] images...obviously was an escapism."

"I thought I was coping quite well but on another level, I wasn't coping at all. So outwardly, you'd say this guy looks ok, this looks fine, and inwardly it was really

bad. So, I think it was just like a reaction to a whole host of pressures just built up. That's the case that pushed me into it."

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"[When discussing factors relevant access during the maintenance period of offending] Where I would feel absolutely fantastic about, um, my life in general, um, and my everyday life and I, I would not go online [to access IIOC] at all really...whereas if, um, I wasn't feeling particularly good...that's where I'd turn to the Internet...if I was feeling particularly depressed. What I now see as depression did have a big impact...My life circumstances didn't change. I still felt fairly terrible about myself. I was struggling with who I was."

Sensation-seeking

"I don't think I deliberately went looking for anything to start with and almost a bit of intrigue and a bit of excitement got the better of me...I think the intrigue, excitement, um, there's this new world out there that I didn't know about and I was discovering."

"Later on [when reflecting on first access], I'd somehow remembered that there was a potential for excitement there."

"[When discussing his reaction to first access; I found it] exciting because, you know, you saw something you don't normally see, you know."

"[When discussing his reaction to first access] I suppose, yeh, there was excitement, feeling happy, almost even, even a possible bit of relief...the excitement would have still been there"

"After a few days [from first access], I decided that I wanted to see that again. I wanted to see if I could access again...all that excitement and you go because you come across that and you continue to watch that."

Interpersonal function

"I just knew it was a way of contacting other people."

"If they were going to send me something and I was going to view it, I would respond with a very positive reaction for them to, um, like I said, form that connection, make that connection stronger."

"You would need to trust someone that much more online because of the behaviour that, your behaviour that you're engaging in with them. Um, so there was definitely more trust in the relationships I was forming online."

"Because I was quite young, I think they probably found it very arousing the fact that somebody was so young was into it and these were people who were much older than me so it had a big impact on me knowing that they were enjoying my enjoyment."

"The method I used was entirely within my own control and, therefore, whenever I wanted to, and if I was on my own, um, I... didn't find it necessary to go beyond this, um, this essentially communicative relationship."

"[When discussing his second arrest for an IIOC offence] I missed the chatting, if you can believe it. I missed the feeling of looking into a world, or a, or a society or a community or whatever very, very different from my own... I would find myself re-establishing contact with people I'd been speaking to before and that, you know, is like meeting an old friend."

"I would describe it as, uh, falling into it rather than choosing to... it was a way to speak to people."

"I did not knowingly access illegal sites. It was more, um, via IRC contacts."

"It was nice to have an ongoing relationship of some kind with someone no matter how dysfunctional and how appalling that relationship was."

Addiction artefact

“Like any form of an addiction, um, you’re, you’re never really... it’s very difficult to be totally immune to it and, uh, this is why so many people... I mean, I, you, you know, a friend of mine is an alcoholic and I’m not saying that the nature of the offence is the same but certainly, in my view, the nature of the activity is very, very similar.”

“It just drew you back like, I don’t know, smoking a cigarette, drinking a beer, going for a run. It’s just something it became a habit.”

“I’d already gotten into an addictive behaviour”

“After a time it became an obsession”

“I knew it was, um, quite addictive for me or compulsive or whatever”

“[HIOC use] became almost like a drug where...that drug was an addiction and it was something I wanted to do”

“Half the motivation was...becoming addicted to something. It became a compulsion... There’s certainly a pattern I saw myself in there where I was um becoming as you became more addicted and more compulsive...It was a type of greed.”

“At the time when I was looking it was like um when I was physically there in front of the computer it was like nothing would stop me. Uh, I I wouldn’t eat, you know, wouldn’t even make myself a cup of tea. I’d just look, not all the time, that would just over-ride all my other activities until it got broken. Until I came, until I came out from that darkness. Um, so it was it was huge- hugely compelling. Hugely, I’d get a huge craving that just sort of over-took me that I seemed to have no control over.”

HIOC-conducive sexual curiosity

“I would probably mix the two [legal material and HIOC] together so, um, you know, when I started...the object thing was to actually push the boundaries a little bit...what you’re looking at became perhaps not quite enough for what you were trying...that’s when those boundaries, um, were crossed over.”

"I don't know whether it was a case of it was further curiosity because when you're looking at adult images, the occasional child image would come along... [Prior to first IIOC access] my kids had friends, they'd have friends round the home, um, I don't recall ever having like offending thoughts about kids... All my prior, all my existing thoughts were positive thoughts for working with kids. Uh so the thoughts of... the sexual thoughts towards kids I think they came up as a result of what I saw on the Internet, they weren't there before."

"[When asked about deviant interest prior to first IIOC access] Certainly not before I owned a computer or used a computer. Uh, uh, none at all."

"I wasn't at that time deliberately looking for indecent images but when I, when I spotted a reference to it. Then I was, um, that interested me so, yeh, I clicked on it, clicked on the link through. So when I saw the opportunity that, that made me deliberately go and look at it although I wasn't necessarily you know thinking of that beforehand."

"I don't think I deliberately went looking for anything to start with and almost a bit of intrigue and a bit of excitement got the better of me and, and that's, you know, if that's out there, what else is out there?"

"[When discussing whether he had a prior paedophilic interest] To the best of my knowledge I don't think I did."

"Before I accessed? Um, I wouldn't say, I wouldn't say I had much of an interest [sexual interest in underage subjects] at all. It wasn't something I considered before I accessed um the images, to be honest"

"There wasn't, um, a sexual interest in relation to children in terms of what I call the "world outside the Internet", for me. So therefore, it was prior to ever doing anything illegal. It was total curiosity and it was the curiosity that took me over that boundary... maybe obviously I was susceptible towards it"

"By looking at pornography and then looking for, you know, younger and younger legal and then, um, suddenly by accessing that, other things would appear and I'd say that, you know, I wasn't physically out there looking for it, um,

it was there. And then the curiosity, uh, took me to over the edge, over the line where then I was able, you know, I was able, I went over that line and clicked on those images.”

“[When discussing a possible relationship between prior sexual interest and IIOC content] Not to start with, no. I think it started to shape my fantasies as the viewing went on.”

“Um, I found that looking at, um, adult images, I was getting immune to it and, um, it was an easier way for sexual gratification looking at something new, something which I thought of as being more real whereas the older pornography looked staged.”

Acknowledged deviant interest

“I started developing fantasies about children...I just saw it [IIOC] as another level of degradation, if you like... I looked at rape sites, torture sites, bestiality sites...I had this fantasy, it was a terrible fantasy but I told people that I was going out with a women in Manchester and living in her house and she had two younger daughters that were interested in me and I developed that fantasy and that was a fantasy that went through my mind a lot in those days, at those times. And sometimes I put it to paper, I'd write it to people”

“I knew that I was attracted to that to that age group, therefore,...seeing, hah, you know nudity in that sense, hah, yeh... I would have fantasised about...seeing nudity in that sense of children”

A smaller sub-theme was extracted from one participant's account which stated that he chose to access IIOC in part due to intellectual curiosity. This referred to exploring content due to his general intrigue generated by media reports about IIOC:

“[When discussing reasons for first IIOC access] General curiosity, uh, but not specific really... Well, one had heard about this activity because one had read about reports of people who had been, um, con-, convicted of it, one read in the, in the media. Uh, that I suppose aroused my curiosity but, uh, I, I didn't really know what was involved”

Cognitive disengagement

“So kind of just swept away and very much in the moment and blocking out anything else, I would imagine is how I would have felt at the time”

“I don’t think that guilt entered my mind at that, at that moment, um, it was that was a very it would have been a very self-absorbed moment I would think.”

Facilitating: Justifying beliefs-diminished harm

“I thought to myself I wasn’t doing anything wrong because um those images were already on the computer. I didn’t realise that um by going on the Internet and downloading child abuse I was making a market for the um abuse. So if I had um posted the images myself I would have considered myself to be um part of the process... With the nudism [HIOC content], um, I felt a little uncomfortable but only a little uncomfortable. I didn’t then see it as...being a form of, um, um, indecency.”

“if it wasn’t just a case of photos of uh nudist camps or beaches then you know generally speaking you can say well that’s I’m looking at a child who you know has been abused and, and of course I, I think, I think I somehow uh generally tuned out of, of the empathy”

“[I] got to say ‘this isn’t real so why do I care? I don’t care about anyone... It was virtual. It was, it was, it wasn’t reality”

“My first images of children they were clothed or semi-clothed or in various small bikinis or things like that. To me that was ok because although they were teenagers and they had some clothes on so that, to me, was ok”

“They [the victims depicted in the HIOC] were only two or three years younger than me and that and that didn’t seem quite as wrong”

“If they involved two children with each other the obviously they’d probably been... well that that is abuse in itself by adults making them do that and probably they’d been abused by adults as well but I suppose I looked over that as long as adults weren’t in the picture”

Facilitating: Justifying beliefs – diminished culpability

“To my way of thinking it was perfectly legal what I was doing because it was naturism and just because it was revolved around children I thought that was perfectly ok... I thought to myself, ‘I don’t have a girlfriend, I can’t trust women, I’m going to get what I want from the Internet and I’m going to use and abuse it’. And it’s free and it’s so readily available and I was telling myself that what I was doing was ok.”

“[When discussing feelings after first access] this is nothing to do with me”

Facilitating: Routine Internet use

“[When discussing motivation to use IRC channels] they clearly offered, uh, the, the, the, the sort of possibility of some kind of virtual contact or real contact in, in theory if not in practice”

“I’ve always used pornography”

“[When discussing the nature of the pornography he accessed prior to HOC] quite a lot of voyeurism and amateur.”

“A long time ago I come across, I come across a certain images. Not children, a kind of just younger people and teenagers.”

“I was looking at, at ordinary – I’m not going to say ordinary pornography – but adult pornography”

“I think I’m addicted to pornography and I think I’m addicted to chat rooms... guilt people would say “well what you’re doing isn’t a bad thing, you mustn’t, uh, uh don’t view it like that”

Protective beliefs

“I always knew it was wrong”

“I was telling myself it was wrong... I knew it was wrong”

“I knew I’d done something wrong... I knew what I was doing was wrong”

"I think the pornography laws as far as I was concerned, you weren't supposed to see an erection, you weren't supposed to see explicit genitalia, anything like that. If you did that was illegal and suddenly you've got access to all these images and this was adult, adult images... In my mind it was a case of this is, this is all wrong"

Aversive reactions

"I just looked at an image and I was also disgusted and looked away... I was shocked and disgusted, when I reflected on it.... So [I was] in two minds, in a way, depending on I think once I'd stopped, turned away from the computer, the initial shock was of disgust."

"Towards the end, say the last year or so of offending I think I was becoming more, 'oh, this is wrong', then disgusted in myself"

"I, uh, must have reflected on how damaging it was to myself and the dangers I was running and the risks I was taking"

"One's initial feeling is 'I don't want to go here'."

"I would feel absolutely terrible...doing something that was just silly and dirty...feeling very vulnerable...really low self-esteem...I would beat myself up about not being a good person...probably because of conscience."

"The very first time that I saw what, what, what looked like what, what looked like an indecent image, it was, was horrific. Um, and again I think at the time this this should be enough to not want to... and it was just one photo in a, in a series of photos that were were up with the rest being adult... You could look at some things which people were say were perfectly acceptable, nothing wrong with it at all and the next page you'd see, or the next site you'd see you know horrendous pornography"

"I do remember feeling still very shocked by it... I can sort of remember how I felt and it was a feeling of shock, um, there was an element of shock there. Um, and that was shock at what I was seeing, shock that it existed, that pictures of this existed"

"[Discussing reaction to first HOC access] It was a shock that these things exist on the line. Then after that I could, I could, I could see that you can really access anything if you search online... I was shocked. I was surprised"

Abstinence attempts

"I switched the computer off turned it off thought, 'no I'm not going on it today' or not, next day"

"Later on the attempts to stop would focus more on limiting my online access altogether"

"[I tried] not accessing...on my computer those channels through which I'd derived the material before"

"What would happen is um having seen these images and some of them I would like deliberately save onto a onto my computer once that period of, of um self-loathing had completed and I was coming out, coming out the other side, as soon as I could I'd go back and delete all the images because I, I felt so sickened by them um 'cos I hated it so much this was a way of trying to clean...I deleted all of that by deleting my access to main chat room that I'd been talking into"

"I deleted history and I deleted images"

"Delete everything. Just delete and throw it. A few times, I throw everything. You just stop it and delete it, throw it."

"I switched off very quickly. I jumped off it straight away. I remember deliberately avoiding those websites, actually...a net of websites that connected with each other that I avoided"

"I'd just be at work and my my work would be a distraction"

Difficulties with abstinence

(ii) lack of personal or professional support,

"[When discussing potentially accessing professional support by telephone] first of all you had to have an interview with somebody on the phone and I was able to

say so much and I had to say I needed to disclose but I can't do this on the telephone to you, not because I don't know who you are because I don't know you if you're face to face but I don't think it's something I can disclose over a telephone conversation... And they said really, because of the way you are you're not severe enough to need any of our help."

"I think I kept fooling myself that on my own and just getting help with addictions [non-IIOC specific], um with the addiction as a I saw it that that would be sufficient enough for me to break the habit eventually."

(iii) diminished concerns, whereby offenders began to forget or overlook feelings of shame or disgust or concerns about being caught,

"[Re-offender discussing how he initially managed to abstain after his first arrest] Simply by saying that this is what had led me into, um, arrest and all that kind of thing and I'd be a bloody fool to do it again. I mean, it's as simple as that. But that, obviously, sort of weakened as the, as the date of my sentencing receded."

(iv) unresolved criminogenic needs (stressful/unfulfilling lifestyle),

"I could go for months and then for whatever reason suddenly I were to come back on and I think part of that is because I hadn't tackled the underlying reason why I was doing this which was partly depression, was making me go there... And Christmas was, was quite often a time when, particularly given that it was a holiday season, given that there's often, there'd be a time when you're on your own over Christmas and you'd have time to kill for lots of reasons and for me emotionally...missing my wife, miss my kids that sort of thing... I felt sad that so much of that I've lost as a result of my um Internet activities... I had a feeling then that that Christmas time of wanting to go back on[line to access IIOC] but I resisted it."

"I have a hell of a lot of time on my own in the house all day long. Now if that was before my arrest I've already made it happen I'd wake up late, I'd go online and I'd stay there until I'd go to bed so now it's been filling my time and it's been the times when I think 'well I'm really bored I could go online and just talk to people

on a chat room about nothing to do with you know indecent images of children or anything illegal or anything. I could just stick to stuff that's completely legal and normal but I don't because once I'm there what's to stop me moving on... I still don't do it and whilst I prefer not doing it and some, now and then you do get the thought cross your mind."

"I possibly spend more time on the Internet now actually because I do less spare time activities... I was alone over Christmas so I knew that was a big temptation."

"[Reoffender discussing motivations to re-access IIOC] I think all the feelings I'd had before of boredom, escape, um, fantasy... It was, it had become part of one's, um, well, 'inner life' in a, in a way."

(v) overwhelming positive reinforcement of access and externalised their locus of control,

"I didn't have the feelings but when they came on it was like well I'd look at anything and everything. It didn't matter...[When reflecting on the extent of his offending] I'd just wiped it out from my memory. The one thing I've said, in terms of the lack of control um to one of the things I was really scared about was had I done this before?"

"I did on a couple of occasions download a couple of movies but, again, it just took so long sitting there waiting and waiting and waiting. So I gave in with that as well [and reverted to accessing IIOC stills], um, because it wasn't fulfilling the need at that moment"

"I just was, I was too weak willed to maintain stopping"

(vi) ineffectual abstinence strategies,

"I was also feeling quite good and and feeling really happy about the fact that I wasn't [accessing IIOC]. Unfortunately I got an upgrade on my phone. I got a Blackberry and I realised at some point I could access the Internet on the Blackberry so I got back into it...for quite a while I had a phone which didn't have Internet capability on it. Um, I then got a free upgrade to a phone which does have internet capability. I deliberately didn't include Internet as part of it but I can still access Internet via WiFi."

"I said with those fantasies I made up and I think again, did I make them up as a defensive thing to make, you know, to say to people so then, then block me."

(vii) and practical inconveniences of an abstinent lifestyle,

"The first arrest didn't really impinge until after my sentencing and other than the suspended sentence... I'd had to buy another computer."

"I miss now, the freedom I can switch now [use the Internet] when I want."

Successful abstinence strategies

"It's trying to rebuild trust with my wife which means she now monitors my Internet access which has forced me to effectively go through an indecent image, porn cold turkey. She despises porn as it is, legal pornography as it is, so all that side of my life has been removed. I can't access any of that, which has probably been the best thing because it does worry me that if at any point I access pornography where is it going to stop because this all started with pornography at the beginning"

"I made a deal with my wife and everybody at home that I would be one or two hours at the computer and that would be it."

"I'm in a completely different place now than I was two years ago but I think that's because of the Police walking in that morning. People around me know what I've done. There's a massive support network there and I know where to go for help and who to talk to, whether it be anonymously or whether it be to my wife."

"I've thought about it. Not wanting to do it but I've had to think about it because of the nature of all the experiences of talking to people about it, what I've done. But I haven't had the urge to look at them."

"I know if I do [re-offend], the consequences of my actions will be unlawful."

"There's a very strong deterrent feeling about being arrested."

"[I have] a slightly more healthy outlook toward the female sex... pornography with legal but 18 year old, 19 year old girls which is unhealthy because if the interest is with 18 or 19 then it could quite easily slip to 17 or 16."

"It's that learning new processes and new ways of doing things. And you know, you know it's unacceptable."

"I look occasionally at the forum called "Unlock.org" 'cos there's a lot of information in there about people on sex offending and things like that... I'm looking at people's views on "Unlock" and I worry when people are saying, 'oh, it's F-ing this and it shouldn't be happening [views of forum users about restriction placed upon Sexual Offenders]' and I think yes it should and I don't mind that."

"Normal adult pornography...gives me what I need."

"I might lose myself into a book and, again, if it's been ok written, but again pure escapism and that means you can shut off from the rest of the world. And I do have a tendency for example, when I am reading a book, I don't hear what other people say to me. I am in that book."

"I've found myself walking with my head down...you know on the odd occasion when someone's caught my eye, who usually to be honest, they're between the ages of 16 and 19 and I think oh they could be young, I don't know and I have to look the complete opposite way... sometimes I cross the road."

"I just need to take my mind to something else, what other things can I be doing and I just try to be alone as least as, as least often."

"I might lose myself into a book and, again, if it's been ok written, but again pure escapism and that means you can shut off from the rest of the world"

"I don't I don't access any of it now... somebody at long last cares about me. So maybe I started to think if somebody cares about me, I should care about myself as well"

“I’ve been on the course and now I’ve got that even stronger bit of will power I highlight the times when I’m most at risk of going online... I feel great and my relationship with my partner has actually never been better”

“The relapse side on that part has totally wiped that out in terms of wanting to look [at any pornographic material] and I have thought of it and said ok if I’m looking at mainstream stuff will I relapse? Will I want to look? No I don’t... I’m a lot more open like a dog where you’re running around a lot more and lot more sociable... I’m so thrown into work and changes at work I’m going through and family and looking at universities with my son that everything’s filled up anyway”

“My wife came to live with me. We were busy together many things, refurbishing the home, uh looking for another job. I had somebody, we spend lots of time together... so it was less time to do that and other things.”

“Coming on the course [offence-specific intervention programme] has helped and then the intensive meetings with my psychiatrist has helped”

Recommendations

“I think looking back, what I wanted, it was more a wrap across the knuckles, ‘yeh, you shouldn’t do that, it’s bad’. Hah, it’s maybe using different ways but I needed persuasion it’s a bad thing.”

Contact Sexual Offending Risk

“I thought about it but I thought, you know, there was the line and it was crossing that line.”

“Anything to do with um an adult doing something with a child I see that as um completely wrong.”

Key term in search engine

“[I] learnt over a period of time, certain key words to search for.”

“I would have had to have installed software on my computer and I think that would have made it real...It’s not real and I’m not really going out of my way. I

just want to access these, something straight away, I've got this urge to do it straight away so I'm not going to spend any time other than just quickly going on to the Internet."

"[when discussing why he began employing alternative methods] I suppose it's like drugs um, if the, umm, if the soft drugs aren't working then you step up to the hard drugs..., I would have downloaded everything I could from one site."

"It is difficult to find the images and new images."

"I wasn't going to follow that method because I didn't know what I was actually going to be downloading."

Progressive website links

"Once I'd come across a method and used it for a bit I suppose that I felt that I was, that I'd become pretty familiar with it"

"I was surfing in that area because I enjoyed the way that the websites were completely unedited"

"Pop-ups would, would appear so you could, you could argue you suddenly realise there's this other stuff out there. So that's when I started looking for it, when I became aware it was there."

"You'd click on something, a pop up would come up and then 'ooh what's this?' and you'd click on that and it gets progressively worse."

Peer-to-Peer file sharing (P2P)

"Like peer to peer network you learn after you try them... I learned about th-, that software which I had. You go to 'Settings' and you set up many things, learn about speed and everything."

"The file sharing site was easier because...you didn't have to look anywhere. People came to you; you could share your list of names with people as well."

"I tried... 'Torrent software' once, but it was just such a faff and I couldn't get my head around it. So I gave in pretty quickly...It was almost a step too far and it was a step into this world that I didn't want to be part of."

"It was almost a step too far and it was a step into this world that I didn't want to be part of."

Internet Relay Chat (IRC) channels

"One in particular that sticks in my mind because I went quite often was called 'Teenspot' so I used to go there quite a lot. And then uh when I was sort of about 19, 20 and I was at university, it was 'Gaydar'."

"There would be a [virtual] room dedicated to phone sex and in that room it was basically an unwritten code that pretty much 90% of people in there were after one thing and that was indecent images of children. The prevalence of it in that chat room still shocks me to that day um and um I would then meet I would meet those people in that chat room, speak to them, establish what they were into and then give them my MSN address and we'd chat on MSN and if we were going to exchange pictures it would be done on there."

"I think it's probably because I became much less interested in images and more interested in talking to people... I didn't feel I needed to [change to an alternative method]"

"There were no moderators on there...MSN had a file sharing application built in so that [IIOC access] was easy."

"I wouldn't join in the chat but I would see what was going on and cut and paste um links that were sent."

"I specifically avoided e-mail and MSN... because you have to put your names in."

Re-accessing known website

"I actually never wrote down or saved favourites – never did that and I never wrote things down. It was always in my head, my own little world."

“Those were the areas I liked.”

“There would be a [virtual] room dedicated to phone sex and in that room it was basically an unwritten code that pretty much 90% of people in there were after one thing and that was indecent images of children”

Blog sites

“That’s what kind of started it all uh becoming a lot more regular for me because I could then just browse around all their various blogs. So I was basically browsing around a load of blogs by paedophiles.”

“It’s amazing really how many of them... stayed up for all the time from when I first saw them up to the point when I was arrested.”

Social network sites

“I found through there it linked to this uh thing called “GR.OUPS” ...that was like, uh, it was social networking in a way...you can register, create a page I suppose, I suppose it’s your own page really and then have people following it yeh so I did sign up to some of those as well and I wold just join join a group or whatever but again it would just it would only be to view the images on there and to see if there were any links and never to communicate with anybody.”

Private e-mail and forum mailing lists

“At the time I thought would risk my confidentiality so e-mail addresses, you know, having even a Hotmail address or anything like that so anything that could be traceable to me.”

Nature of IIOC content

“I’d want it to be something new that I hadn’t seen before. I’d look at it, if it was new and exciting that’s great.”

Maintaining collections

“There was a massive array of adult pornography... When I was arrested they said I had about a hundred thousand [adult images] and six and a half thousand indecent [images of children].”

“Most of it was um uh pornographic. There were some obscene and extreme pornographic ones as well.”

“Basically what the collection was there for was indecent images of children, that’s what its purpose was. Everything else I could find online because it was legal and it was there.”

“I used a ‘Flickr’ account and I think, I think that’s how I was tracked apparently according to the Police.”

“I never collected because I deleted everything as I went along.”

Content type

“it started with girls around 16, 17 and then... girls around 13, 14, 15, um, but mostly erotic posing.”

“Probably what it started off with was looking at, you know, children with their clothes on... When I first came across those images I would describe them as in the category levels, as I now know about, as certainly the category 1.”

“They were Level 1. They were all posed inactive, passive, singular alone.”

“To start off with it was just Levels 1 to 2 but then it got worse.”

“It would be Level 1 then. I mean I would say that it was even... the stuff I was probably the first things I saw were, were photos from like uh nudist beaches that kind of thing so it was not even erotic.”

“[The content] progressively got, got worse... at the very beginning it was straight forward um pictures of chil- of teenagers and it just progressively go – because you’d see one teenager with some clothes on, it became, you wanted to see another one with a few clothes on and it just got worse.”

“The lower Levels to begin with. Maybe I ...images of young girls in non-sexual poses.”

“[The IIOC collection content comprised] six thousand of those or there about were Level 1 and then there were all the way up I think there were about 40 Level 4’s and seven Level 5’s.”

“I came across the odd blog which had much worse images up to, up to, all the way up to Level 4.”

“It began with fairly innocent pictures and progressed towards Levels 3, 4 and sometimes 5.”

“The images remained low in the categories so they were mostly 1s... because I didn’t want to look at images that would be [of a higher level of severity].”

“When I had actually clicked on a Level 4 or 5 image, that actually horrified me you know...that was extremely off-putting.”

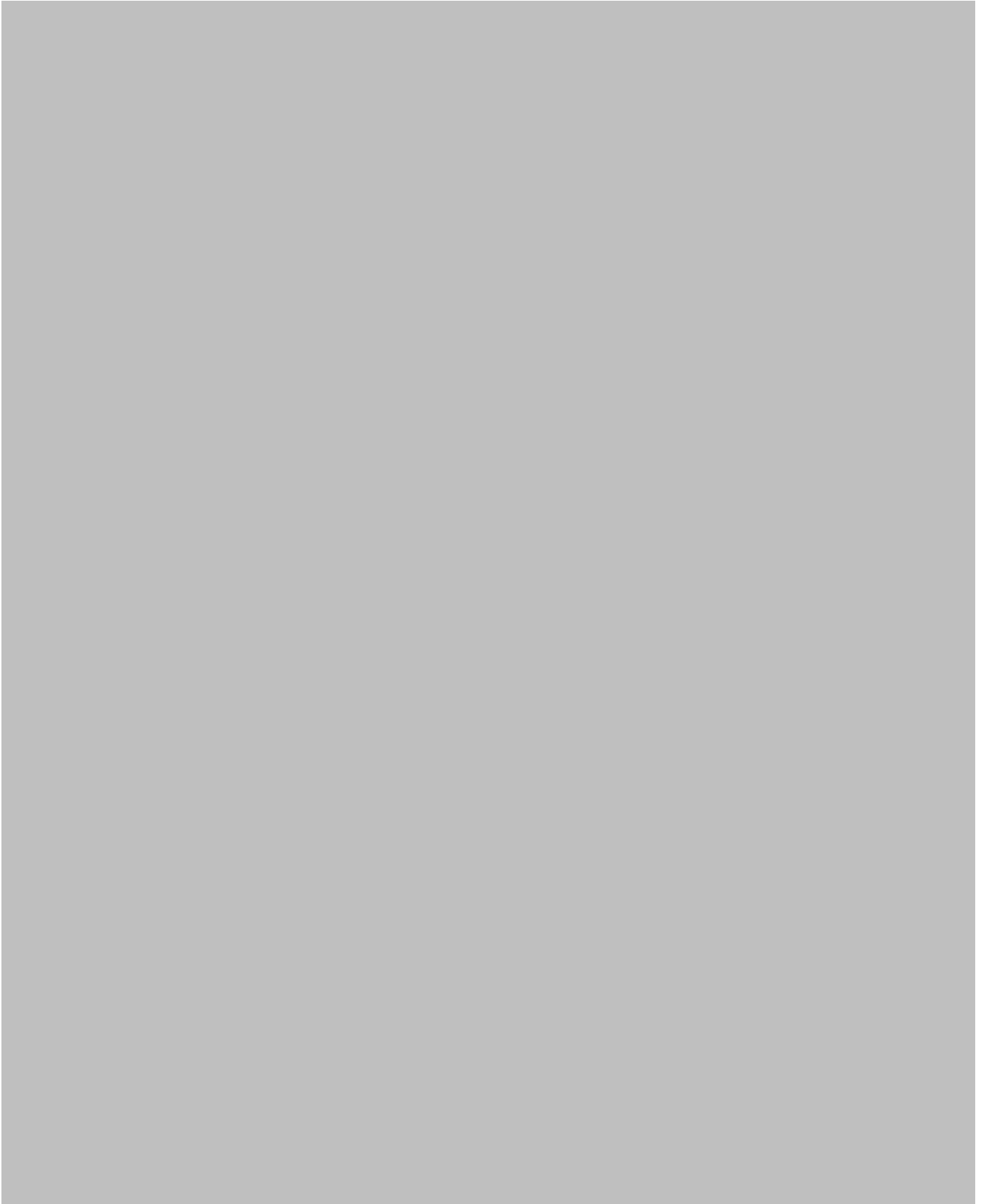
Pattern of IIOC access

“I would be online you know all day um day or night to the point where day and night seemed the same thing.”

“As I said sometimes I would take every day a week. Sometimes I stopped for, for few weeks and start again. Sometimes was uh very intensive searching. Sometimes was just to see what’s, what’s going on.”

“It could be months could go by and as I say when I accessed them it could be for a day. It could be for several days. It could be for a week or so and then I could go months without looking at them again.”

Appendix M. Emotion Control Questionnaire, Second Edition (ECQ2; Roger & Najarian, 1989).







Appendix N. Table of item loadings of the ECQ2, taken from Roger and Najarian (1989).





Appendix O. Table of norm group means of the ECQ2 and results of the correlational analysis amongst factors of the measure, taken from Roger and Najarian (1989).

